Operational Review of the Health Care Corporation of St. John's

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Final Report

March 2002

HayGroup

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

**Department of
Health and Community Services**

Please note:

The primary focus of this report was the preparation of a financial recovery plan which would eliminate the deficit of the Health Care Corporation of St. John's for the 2001/02 fiscal year and to identify strategies to generally contain the growth in costs in the future. The text and opinions therein are the responsibility of the consultants, the Hay Health Care Consulting Group.

In the opinion of the Minister of Health and Community Services and the department, the reference to the training of the physicians working in emergency medicine at the Janeway Children's Hospital contained on page 147 of this report, is poorly worded and should not have been made without direct sources of evidence. The Minister and the department disassociate themselves from those comments on the Janeway Emergency Department.

The quality of treatment and outcomes at the Janeway Emergency Department are fully endorsed by the Minister and the department.

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1.0 Background and Objectives

1.1 Project Background

1.1.1 Hospital Merger

The Health Care Corporation of St. John's was formed in 1995 through the merger of 7 predecessor health care organizations. The merger provided for the consolidation of the acute, chronic and mental health care facilities in St. John's under one board and management.

HCCSJ operates 4 hospitals, a rehabilitation/continuing care centre and a health centre

The corporation now operates six facilities including four hospitals, one health centre and one provincial rehabilitation/continuing care centre:

- The General Hospital Health Sciences Centre:
- St. Clare's Mercy Hospital:
- Janeway Children's Health and Rehabilitation Centre:
- The Waterford Hospital
- The Dr. Leonard A. Miller Centre:
- The Dr. Walter Templeman Health Centre

The merger of the predecessor hospitals into a single organization, the closing of an acute care facility, the introduction of program management and the construction of the new Janeway Hospital have been both tremendous challenges and significant accomplishments for the staff, medical staff, management and board of the Health Care Corporation of St. John's.

HCCSJ is the largest health care organization in the province providing acute care, rehabilitation and long-term care services to about 200,000 people in the St. John's region. It also serves as the major tertiary referral centre for the whole province.

HCCSJ provides acute, rehabilitation and long-term care services to the population of the St. John's Region and tertiary referral care to the entire province

The corporation is responsible for over 800 acute care beds and 300 long-term care/rehabilitation beds. For the period 1999/2000 the corporation managed 28,774 admissions/discharges, 118,909 emergency visits, 24,040 adult and 5,631 pediatric medical/surgical day care visits and 10,364 endoscopies. In addition 2,231 babies were born at hospitals under the corporation. The HCCSJ has expenditures of $394 million, 7,000 employees and approximately 500 practicing physicians.

HCCSJ organizes and delivers its services under a program management model

The corporation delivers health services under a program-based system. There are 9 clinical programs:

- Medicine;
- Surgery;
- Cardiac Care;
- Women's Health;
- Child Health;
- Mental Health;
- Critical Care;
- Emergency/Trauma; and
- Rehabilitation/Continuing Care

There are also four clinical support programs:

- Ambulatory Care;
- Diagnostic Imaging;
- Laboratory Services; and
- Perioperative Services.

And the hospital operates Dr. Walter Templeman Health Centre, on Bell Island.

HCCSJ operates the Centre for Nursing Studies and collaborates with Memorial University, the College of the North Atlantic health services and medical teaching and research

Additionally the corporation operates the Centre for Nursing Studies that offers a four-year baccalaureate degree in nursing The HCCSJ has a close relationship with Memorial University's Faculty of Medicine and the College of the North Atlantic, the provincial community college. Working in concert with Memorial University, the HCCSJ supports research aimed at improving the health of the community and the delivery of health services. The Clinical Research Centre supports clinical researchers and promotes research partnerships.

1.1.2 Operating and Financial Performance since Merger

HCCSJ has had a deteriorating financial position since the merger. In each year since the merger the hospital has experienced a loss from operations. The accumulated losses to March 31 2001 were almost $30 million. And the hospital is forecasting an operating loss for 2001/02 of over $4 million.

(,000s)	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Revenues	$ 286,234	$ 288,033	$ 294,628	$ 303,073	$ 335,080	$ 355,301
Expenditures	$ 287,630	$ 294,191	$ 296,121	$ 309,097	$ 337,149	$ 367,279
Deficit	**-$ 1,396**	**-$ 6,158**	**-$ 1,493**	**-$ 6,024**	**-$ 2,069**	**-$ 11,978**

The Board now has a working capital deficit exceeding $35 million.

1.13 Project Background

Financing of the Health Care System in Newfoundland and Labrador continues to present an ongoing challenge. Since 1997 there have been numerous reviews and attempts to address cost saving initiatives but the health institutions still struggle with bringing health care expenditures in line with revenues. In 2001 the Minister of Health and Community Services transferred an additional $50 million into the province's health institutions on an annualized basis to cover inflation and other known cost increases that had been identified by the hospitals.

Despite additional funding from the Department of $15.4 million, HCCSJ estimated that the hospital's planned spending for 2001/02 would result in a deficit of $6.6 million

Through this initiative of the Minister, the Health Care Corporation of St. John's (HCCSJ) received an additional $15.4 million. Although most health institutions have now provided an operating plan to the Minister to balance their current fiscal year budgets, the Health Care Corporation of St. John's submitted a plan to the Minister on indicating a year-end deficit of $6.6 Million.

As a result of the hospital's apparent inability to operate within available funds, the Minister of Health and Community Services decided to engage an external consulting team to conduct this operational review of the HCCSJ. The operational review has focused on identifying actions available to the hospital to reduce its forecasted deficit for the current fiscal year. The review has also identified cost saving and revenue generation opportunities that are available to the hospital over the longer term that will establish an operating cost structure that better fits the hospital's revenues

1.2 Project Objectives

The Minister's overall objective in conducting this review has been to assist the hospital in achieving and maintaining a positive financial position. Specific objectives for the review are:

1. Identify a recovery plan to move toward balance in the current operating budget by March 31, 2002, or

2. Identify actions which will provide additional savings in 2002/03 and an operating surplus that can be applied to the

prior 2001/02 deficit if the analysis indicates that it is not feasible to address fully this year's operating deficit by March 31, 2002;

3. Identify longer term cost reduction, cost containment and reasonable revenue generation opportunities that would result in additional improvements in the financial position of HCCSJ into the future.

In developing plans for recovery, cost savings and revenue enhancement, priority have been given to initiatives that will have the least detrimental impact on patient care, education and research.

1.3 Project Scope and Approach

1.3.1 Project Scope

To achieve the objectives of the review, the project has focused on identifying the factors contributing to the Corporation's deficit and increasing expenditures. The review has evaluated and identified opportunities for improvement in the:

- Governance structures and processes
- Management structures and processes
- Operations and operating costs
- Clinical utilization and clinical efficiency

The focus of this investigation has been initiatives that will allow the hospital to achieve and maintain a balanced budget and more favourable working funds position as quickly as possible. The project has included the following major elements:

Phase 1: Project organization and assembly and refinement of HCCSJ data and measurements of costs, operating efficiency, clinical efficiency and population utilization of hospital services

Phase 2: Review and evaluation of governance and management

Phase 3: Review and evaluation of the efficiency of hospital operations to identify opportunities to reduce costs in the short and longer-term

Phase 4: Review and evaluation of the appropriate use of hospital resources and of the efficiency of clinical processes.

Phase 5: Reporting on opportunities to improve governance, management, clinical efficiency, operational efficiency and population use of hospital services.

The major deliverable of this Review is this Report which:

- Analyzes the hospital's performance, costs and funding;
- Identifies opportunities for improvement in governance, management and operations;
- Summarizes cost savings opportunities;
- Recommends actions and responsibilities to achieve a balanced operating position and recovery from operating losses in 2001/02.

The focus of the report is a plan that will enable the hospital to both continue meeting patient and academic needs and achieve a balanced financial position.

1.3.2 Approach to Project

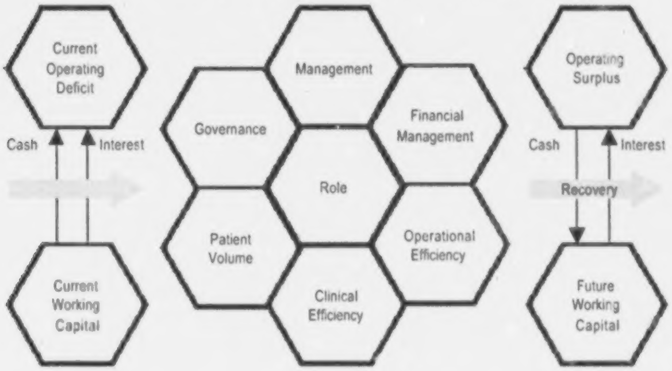
Our approach to this project has involved an integrated and iterative series of analyses focusing on understanding the

- Needs of the population for hospital care
- The response of the hospital to population needs
- The clinical and operational processes of the hospital
- The governance and management processes of the hospital
- The operating costs and funding and finances of the hospital

In order to identify opportunities for improvement and develop a plan for the financial recovery of the organization.

This approach is presented schematically in the exhibit following.

Exhibit 1.1
Overview of Approach to the Operational Review of The Hospital Corporation of St. John's


Current Operating Deficit
Cash
Interest
Current Working Capital
Management
Governance
Financial Management
Role
Patient Volume
Operational Efficiency
Clinical Efficiency
Operating Surplus
Cash
Interest
Recovery
Future Working Capital

1.4 The Steering Committee

The project was conducted by the consultants under the direction the Department of Health and Community Services. The study received advice from a Steering Committee made up of representatives of the Hospital Corporation of St. John's, The Faculty of Medicine of the Memorial University and the Department. The Steering Committee was responsible for directing the execution of the study and reviewing and commenting on interim and final reports. The Deputy Minister served as Chair of the Steering Committee. The members of the Steering Committee were:

Mr. Robert Thompson, (Chair),
Deputy Minister, Department of Health and Community Services

Ms. Loretta Chard,
Assistant Deputy Minister, Board Services, Department of Health and Community Services

Ms. Donna Brewer,
Assistant Deputy Minister, Support Services, Department of Health and Community Services

Mr. John Rumboldt,
Regional Consultant, Department of Health and Community Services

Mr. John Abbott,
Board Chair, Health Care Corporation of St. John's

Mr. George Tilley,
Chief Executive Officer, Health Care Corporation of St. John's

Mr. Kent Decker,
Vice President-Finance, Health Care Corporation of St. John's

Dr. Robert Williams,
Vice President-Medical Services, Health Care Corporation of St. John's

Ms. Louise Jones,
Vice President-Patient Care Services, Health Care Corporation of St. John's

Ms. Brenda Caul,
Assistant Secretary (Budgeting), Treasury Board

Dr. Cindy Whitman,
Chair-Medical Advisory Committee, Health Care Corporation of St. John's

Dr. Jennifer Jackman,
Consultant for Department of Health and Community Services

Dr. Ian Bowmer,
Dean, Faculty of Medicine, Memorial University of Newfoundland

Mr. Mark Hundert,
Hay Group

2.0 Governance and Management

2.1 The Province and the Hospital

Hospital Boards in Newfoundland are public bodies created by the province to be instruments of public policy in the delivery of health services.

Hospital Boards in Newfoundland are public bodies created by the province to be instruments of public policy in the delivery of health services. Hospital boards are dependent on the provincial government for their operating and capital funds. The public holds the provincial government accountable for the funding, organization, delivery and, to a large extent, the quality of hospital services. Because of the public's perspective and the amount of public funds being provided to hospitals, the government has increasingly stressed the accountability of hospitals and hospital boards for their use of these public funds and for the effectiveness, efficiency and the long-term viability of hospitals. The Government of Newfoundland and Labrador recently articulated the importance of this accountability in its *Achieving Excellence: A Guidebook for the Improved Accountability of Public Bodies*.

Although the government holds hospital boards accountable, it has also allowed them to operate with independence and latitude to respond, as best they can, to the interests and needs of their communities.

Although the government holds hospital boards accountable, it has also allowed them to operate with independence and latitude to respond, as best they can, to the interests and needs of their communities. The position of the government is that once it has agreed with the hospital's general program, operating plan and budget, it remains at 'arms length' from the hospital's day-to-day activities unless and until a major issue occurs. At that point the Department of Health and Community Services has the right and the power to intervene as it deems appropriate.

The Department of Health and Community Services is responsible for determining and ensuring a planned and coordinated system of health care. The hospital's responsibilities are to manage and deliver its mandated services in the most effective and efficient manner it can, to optimize the use of the resources available to it and to strive continuously to improve the availability and quality of its services.

2.2 Governance of the Health Care Corporation of St. John's

Hospital Governance

Hospital governance is the exercise of authority, direction and control over the hospital by the hospital's board of directors.[1] Fundamental responsibilities of governance are:

- defining the purposes, principles, and objectives of hospital
- ensuring and monitoring the quality of hospital services
- ensuring fiscal integrity and long-term future of hospital
- arranging for and monitoring the effectiveness of the hospital's management
- approving annual operating plans and budgets of hospital

In Newfoundland and Labrador the members of the board make up the hospital corporation. The members of the hospital board are appointed by the Minister and thus are directly accountable to the Minister of the Department of Health and Community Services. The board of the hospital is accountable to the patients and communities served by the hospital through the Minister who acts on behalf of the people of Newfoundland and Labrador.

Independence and Autonomy

"…no public body is totally independent from the elected government which created it. However, many public bodies are autonomous in that they are self governing within a larger framework of governance, and exercise their decision-making powers within provincial government policy and legislation. The autonomous status of public bodies does not exempt them from being accountable to designated Ministers. It is important to understand that public bodies are instruments of public policy that have been created for that purpose by government or the Legislature.[2]"

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[1] From Into the 21st Century: Ontario's Public Hospitals, Report of the Steering Committee, Public Hospitals Act Review, Ontario Ministry of Health, February, 1992.

[2] Government of Newfoundland and Labrador Treasury Board, "Achieving Excellence 2000-A Handbook for the Improved Governance of Public Bodies"

A fundamental responsibility of the hospital board is the fiscal integrity of the hospital and its long-term solvency.

A fundamental responsibility of the hospital board is the fiscal integrity of the hospital and its long-term solvency. It is accountable to the province (acting on behalf of that community) for the long-term viability of the hospital. The board is required to "provide for the faithful and economical management of the facilities for which the Health Care Corporation is responsible."[3]

Hospital boards that allow the hospital's debt to exceed its ability to repay that debt are putting the hospital, its ability to provide service to the community and the health of the community at risk.

The fiscal solvency of the hospital is critical to its ability to respond to the care requirements of the community. Hospital boards that allow the hospital's debt to exceed its ability to repay that debt are putting the hospital, its ability to provide service to the community and the health of the community at risk. This is not good or reasonable stewardship of public and charitable funds and is not in keeping with the hospital corporation's long-term obligations to the Minister. If a hospital board puts the long-term solvency and viability of a hospital at risk, it is incumbent on the provincial government to take action, in the interest of the local community and the province as a whole, to correct the situation and restore the hospital to solvency.

Governance of The Health Care Corporation of St. John's

The following paragraphs provide a brief description and evaluation of the ownership and governance structures and processes of HCCSJ.

The Health Care Corporation of St. John's

The Health Care Corporation of St. John's was created through a Hospitals Act (Health Care Corporation of St. John's) Constitution Order, 1995.[4] Section three of the order states the Health Care Corporation of St. John's "shall manage and control the operation of the following scheduled hospitals:

- Children's Rehabilitation Centre, Pleasantville, St. John's;
- Dr. Charles A. Janeway Child Health Centre, Pleasantville, St. John's;
- Dr. Leonard A. Miller Centre, St. John's;
- Dr. Walter Templeman Hospital, Bell Island
- General Hospital, St. John's;

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[3] Health Care Corporation of St. John's *Governance and Administrative By-Laws*, section 2:04 (c).

[4] Newfoundland Regulation 31/95, pursuant to sections 4 and 5 of the *Hospitals Act*, RSN 1990, c.H-9. (filed March 28,1995).

- St. Clare's Mercy Hospital, St. John's;
- Salvation Army Grace General Hospital, St. John's;
- Waterford Hospital, St. John's

and all other facilities, services and programs operated or provided by or associated with the above scheduled hospitals."

The Health Care Corporation of St. John's is made up of "not more than eighteen persons appointed by the Honourable Minister of Health."[5] The members of the corporation are also the Trustees of the corporation. Although the hospital corporation provides services to the local community, the corporation is accountable to the Minister of Health and Community Services.

Composition and Size of Board

The maximum and minimum size of the Board is defined in section 7(1) of the Hospitals Act. The current board of the Health Care Corporation of St. John's is composed of 18 Members appointed by the Minister of Health. There are three officers of the Board, the Chairperson, the Vice-Chairperson, and the Secretary. The Chief Executive Officer is the Secretary of the Board and is not a voting member.

There are no ex-officio members of the Board and in accordance with the Hospitals Act no one is a member of the Board "who is a member of the medical staff of a hospital operated by the board or who is an employee of the board"[6]. However, also in accordance with the Act, a number of hospital management staff regularly to attend Board meetings, including the Chief Executive Officer and all 5 vice presidents. Additionally the Chair of the Medical Advisory Committee and the President of Medical Staff Association are invited and regularly attend meetings of the Board of Trustees. The Dean of the Medical School also attends HCCSJ Board meetings.

The hospital (or the department) has not chosen to avail itself of the provision of the act wherein an agreement may be executed between the minister and the hospital "providing that the chief of staff and the administrator of the hospital may be members of the hospital board[7]" if the Lieutenant–Governor in Council considers it necessary or desirable.

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[5] Newfoundland Regulation 31/95, pursuant to sections 4 and 5 of the *Hospitals Act*, RSN 1990, c.H-9..

[6] Government of Newfoundland and Labrador, Hospitals Act, RSN1990 Chapter H-9: An act Respecting Management and Operation of Hospitals in the Province.

Appointment to the Board

Board members are appointed by the Lieutenant Governor in Council, pursuant to section 7(1) of the Hospitals Act. Every resident of the province of Newfoundland is qualified to serve as a member of the Board. Neither employees nor members of the medical staff of any hospital operated by the Health Care Corporation of St. John's may be appointed to the HCCSJ Board.[8]

The Minister appoints trustees for a period not exceeding three years. Trustees are eligible for reappointment, but a Trustee may not serve on the Board for a continuous period longer than nine years. Notwithstanding Section 9 of the Hospitals Act, the Lieutenant Governor in Council may prescribe a term of office for a period greater or less than three years, or make any other changes to the term of an individual board member or an entire board as deemed to be appropriate.

Board Orientation

An orientation manual supports the board orientation process. This resource provides foundational documents of the corporation (including guiding principles, corporate values, mission statement and vision statement), and describes the local patient populations, HCCSJ organizational structure, strategic directions, and the current board structure. A number of recent communications also are provided to help prepare board members for their role and responsibilities. Additionally, as has been discussed previously, the province has published its framework for governance and accountability-*"Achieving Excellence."* And, these materials are augmented by staff presentations on special issues as needed.

Committee Structures & Processes

There are 7 Standing Committees of the Board, whose members are appointed annually by the board:[9]

- Ethics and Values
- Executive
- Finance and Audit
- Human Resources

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[7] Hospitals Act. Section 20 (1)

[8] *Hospitals Act*. Section 7(4).

[9] Health Care Corporation of St. John's *Governance and Administrative By-Laws*, section 6:02.

- Planning
- Property
- Quality Initiatives

Board Committee Membership

With the exception of the Executive Committee, the composition of the board committees is a combination of trustees and non-trustees as determined by the board; however, only trustees are permitted to vote at Committee meetings. The Chairperson of the board and the Chief Executive Officer are ex-officio members of all board committees.[10] However, the CEO is not a board member and thus does not vote at committee meetings.

Joint committees with affiliated organizations as described in the hospital by-laws[11] include:

- Joint Conference Committee
- Joint Liaison Committee
- Research Proposals Approval Committee
- Medical Advisory Committee

The Medical Advisory Committee

The Board has a number of advisory committees, including the Medical Advisory Committee. The functions of the Medical Advisory Committee are to:

- "Advise the Board on the quality of medical care, on the appointment and reappointment of medical staff, on research projects involving human experimentation, on the purchase of medical equipment and other appropriate matters;
- To advise the Chief Executive Officer and Vice-President Medical Services on appropriate matters;
- To serve as a forum for discussion and, if necessary, decision among the various elements of the medical staff;
- To consider, act on or refer other items which are submitted from the Clinical Chiefs, officers of the medical staff, Chief Executive Officer, or Vice-President Medical Services"[12]

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[10] Health Care Corporation of St. John's *Governance and Administrative By-Laws*, section 6:06.

[11] The Centre for Nursing Studies Advisory Committee is no longer a committee of the Board.

[12] Health Care Corporation of St. John's *Medical Staff By-Laws*, section M8:13 (a-d)

The MAC is made up 17 Program Clinical Chiefs, Chairpersons of Faculty of Medicine Disciplines not designated as programs, and medical and administrative ex-officio members.

The Board appoints the Chairperson of the MAC after considering the recommendation of the MAC. The Chairperson is accountable to the Board.

The MAC is not providing the Board with regular reports on the quality of medical care in the hospital

The Chairperson of the MAC provides regular reports to the board regarding the activities, recommendations and actions of the MAC, as well as appointments to the medical staff of the hospital. The reporting focuses primarily on medical department's interests and concerns related to hospital operations. Although advising the Board on the quality of medical care is one of the prime responsibilities of the MAC, the MAC's reports to the board provide little discussion of the quality of medical care in the hospital and there is no regular reporting of any measurements of the quality of medical care.

Also, it is important to note that although the MAC provides regular reports to the Board, it is not formally a committee of the board. (It appears to be a Committee of the organized medical staff of the HCCSJ.) And, the Chair of the MAC is not a member of the Board. Although there is no evidence of a problem, we are concerned that, because there is no formal, structural relationship between the Board and the MAC, the Board could take action without receiving advice regarding the implications of its actions on the quality of medical care at the hospital.

We believe that the Board would be better able to fulfil its responsibility for the quality of care at the hospital if it more formally had access to advice from the medical staff on the quality of medical care. This would be facilitated if the MAC were recognized, formally, as a subcommittee of the Board and if the Chair of the MAC was appointed by the Board and served, ex-officio, as a full member of the Board. The Board would also be able, formally, to provide direction to the medical staff (through the MAC) related to quality of care at the hospital. (If the Chair of the MAC were to serve on the Board, would be appropriate for the CEO, as the overall leader of the organization, including the medical staff, to also be a full member of the Board.)

It is recommended that:

(1) The Board Chairperson along with the Minister of Health should solicit the Lieutenant Governor in

Council to allow the Chief of Staff/Chair of the MAC and the CEO to be a member of the Board of Trustees of HCCSJ.

(2) The Board Chairperson should cause the administrative bylaws to be rewritten to make the Chief of Staff an appointee of the Board and Chair of the MAC.

(3) The Board Chairperson should cause the administrative bylaws to be rewritten to make the MAC a subcommittee of the Board of Trustees of HCCSJ.

Committee Processes

A significant amount of the work of the board is being delegated, appropriately, to the standing committees of the board. The committees review information and debate issues more comprehensively than could be achieved by the full board. Currently, standing committees:

- Provide brief highlights or more detailed minutes of their meetings for the information of the full board.
- Report their recommendations for board action.
- Support their recommendations with documentation of issues and discussions that took place at the committee level.
- Except in unusual circumstances, these processes and practices are minimizing the need for the full board to reconsider and re-debate issues that have been dealt with at the committee level.
- Board members will ask the subcommittee to clarify facts, issues and recommendations; they generally do not repeat the debate that has already taken place at the subcommittee level.
- The board will then vote on the recommendation of the Committee, accepting or rejecting the recommendation as appropriate.

This approach to deliberation and decision-making makes Board meetings more efficient. It allows the full board to focus its deliberations on the most critical issues.

Many of the board committees seem to be moving into the domain of management

It should be noted that in our investigations we have observed that many of the board committees seem to be moving into the domain of management. Although the distinction between governance and management is often not clear, if managers are to be successful, they need to be given the latitude to manage without interference from the board. Having said that, it is the domain of the board to set specific objectives for management and to monitor management's performance in relation to those objectives. (To be fair, if managers do not develop mechanisms and metrics to allow governors to monitor performance, governors will be forced, in the execution of their responsibilities as governors, to be more involved in operations than might be desirable.) The tactics employed by managers to achieve the objectives should be developed and implemented by management, not the board. The board should monitor these tactics only as they relate to the values established by the board to guide the operation of the organization. This important distinction in the roles of governors and managers relates to all areas of governance and management, from finance to ethics.

Defining & Maintaining Purposes & Principles of Hospital

The health care industry has clearly recognized the importance for hospitals to develop coherent sets of objectives and plans. Planning is recognized as a critical component of hospital governance and management. Hospitals should develop plans in response to the needs of the community and in collaboration with the community and other health care and social service agencies. Effective hospital planning should include the following elements:

- Identifying the communities to be served by the hospital,
- Establishing the objectives for the hospital (Vision, Mission and Core Values),
- Selecting the health needs of the composite community that might be appropriately served by the hospital (Role Statement),
- Defining and describing the programs and services required to be offered by the hospital to respond to the health needs of the population and achieve the hospital's objectives (Long-Range Plan),
- Detailing plans for implementing the program and service goals of the long-range plan and thus achieving the Vision and fulfilling the Mission of the hospital (Strategic Plan),
- Translating the objectives, plans and strategies into specific activities to be initiated in the next fiscal year (Operational Plan).

Decision-making in the absence of clearly articulated Long- Range and Strategic Plans is often uncoordinated and inconsistent

We believe that a Vision/Mission Statement, Role Statement, Long Range Plan and Strategic Plan are critical to the successful governance and management of a hospital. Decision-making in the absence of clearly articulated Long- Range and Strategic Plans is often uncoordinated and inconsistent. The complexity of a hospital and its levels of governance and management require that decisions must be made with reference to a set of long-term objectives (Vision/Mission/Role) and a plan for achieving these objectives (Long-Range and Strategic Plans) that are generally accepted by the critical hospital stakeholders. These documents provide a framework for annual operational planning and budgeting. If prepared through the collaboration of the board, the medical staff, management and hospital staff and in consultation with the community and other health care agencies, they can become the basis for clear communication of the hospital's priorities and for collaborative and supportive actions to achieve the hospital's objectives.

In keeping with the need to distinguish between governance and management, organizational objectives and long-range goals for programs and services should be considered primarily a responsibility of governance; strategies and operational plans for achieving these objectives and goals should be considered primarily a responsibility of management. Although primarily a responsibility of governance, it is unrealistic to expect that boards can or should develop long range objectives or plans independently. Although led by the board, management staff of the hospital will support the development of these statements and plans.

Long Range Objectives: the Hospital's Vision, Mission and Role

The Corporation's planning framework was developed in the first eighteen months of the organization's existence. This framework includes Vision Statement, Mission Statement, Corporate Values, Guiding Principles, and Strategic Directions. These are based on the deliberations at the Board Planning Retreat held in November 1995. These were refined as a result of a Leadership retreat in March of 2000 and became the "Foundational Statements" for the organization.

The Foundational Statements formed the basis for the development of a corporate Strategic Plan wherein the hospital articulated how it would achieve the Board's Vision and implement the Board's 'Strategic Directions'. The strategic plan commits the organization to its strategic directions:

- identifying and addressing service needs of patients;
- ensuring adequate human resources and stabilization of the work force;
- ensuring the financial stability of the organization;
- promoting evidence based decision-making,
- sharing information with the public and
- promoting a seamless continuum of care."[13]

Since the merger, the corporation's planning activity has been appropriately focused on rationalizing the programs and services of the predecessor organizations.

Since the merger, the corporation's planning activity has been appropriately focused on integrating, and rationalizing the programs and services of the predecessor organizations. The hospital's Strategic Directions and Strategic Plan reflect the final stage of this process wherein their key focus is on stabilizing operations and developing an operating framework and management processes that will provide a foundation for future growth and development[14].

The corporation has not yet articulated its desired role in responding to the health needs of the communities that it serves

However the corporation has not yet formally, or fully articulated its desired role in responding to the health needs of the communities that it serves, nor has it developed long-range or strategic plans to guide its future growth and development. In implementing and consolidating the merger, the hospital seems to have relied on the programs and services of the predecessor organizations to define its current and future role. With the organizational merger, program and service rationalization and facility development almost complete, it is time for the organization to contemplate its longer-term future.

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[13] Health Care Corporation of St. John's *Strategic Plan 2001-2003*. p.5

[14] Also, the Strategic Plan does not articulate desired 'end-states for the organization', rather it describes the desired focus of activity for the organization and selected initiatives for various elements of the organization.

It is recommended that:

(4) The Board of Trustees should initiate a process to develop a role statement and long range plan for the hospital.

Ensuring & Monitoring Effective Management & Financial Health

For the board of a hospital to exercise its responsibility in ensuring effective management and the financial health of the hospital, there must be strong processes for operational planning and budgeting and for reporting on progress in achieving these plans and budgets.

Operational Planning and Budgeting

The primary link between a public body's budgeting and strategic planning processes is the annual operational plan

"The primary link between a public body's budgeting and strategic planning processes is the annual operational plan, which translates long-term goals and objectives into a clear operating framework for a one year period……. Operating plans generate the context for the detailed financial information required in the annual budget.[15]

A hospital board should start the operational planning process by setting the annual objectives for the organization and defining the parameters for operational planning and budgeting

A hospital board should start the operational planning process by drawing from the hospital's long-range plan to set the annual objectives for the organization and to define the parameters for operational planning and budgeting. Without clearly articulated objectives, it is not possible for the board to evaluate the hospital's performance.

The board must take the initiative in setting goals and initial targets for the size of the hospital's operating surplus or loss for the coming year. Budget targets should take into account the Board's responsibility to ensure the current and future financial health of the hospital. The Board should then critically review and approve the operating plan and budget developed by management to achieve its objectives and to accommodate its budget parameters. If the hospital's resources are insufficient to implement the hospital's plans, then the Board must take responsibility for directing management to defer initiatives, suggest alternative strategies for achieving the hospital's vision or, if necessary, to rethink the vision for the organization.

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[15] Government of Newfoundland and Labrador Treasury Board, "Achieving Excellence 2000-A Guidebook for the Improved Accountability of Public Bodies"

The Health Care Corporation of St. John's does not set annual objectives for the organization

Annual objectives should start the annual operational planning and budgeting process and should provide the framework for setting planning parameters and performance targets. The objectives should relate to the same period as the operational plan and budget. The Health Care Corporation of St. John's does not set annual objectives for the organization. It is relying on the Strategic Directions/Strategic Plan to provide the framework for operational planning and budgeting. But hospitals, like most organizations, operate and are funded on an annual cycle. The Board needs to draw from its 3-year strategic plan to determine what it wants to achieve in the coming year.

Neither the board nor management is establishing annual objectives for the hospital. Of perhaps greater importance, because there are no clearly articulated annual objectives, the board is not monitoring and management is not providing regular or comprehensive reports on performance in relation to the corporation's objectives

It is recommended that:

(5) The Chairperson of the Board should develop and implement a process for setting annual objectives for the hospital that can guide the development of the hospital's operating plan and its operating budget.

Operating Results

The Health Care Corporation of St. John's has recorded a deficit each year since its formation in 1995. The following table provides a summary.

Exhibit 2.1
Revenue and Expenditure of HCCSJ[17]
(all numbers are in thousands)

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Revenue	286,234	288,033	294,628	303,073	335,080	355,301

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[16] Health Care Corporation of St. John's. *Our Five Years Together. Retrospective. April 1995 – April 2000.* Appendix B.

[17] Financial Statements included in Board package, March 31, 2001.

Expenditure	287,630	294,191	296,121	309,097	337,149	367,279
Deficit	-1,396	-6,158	-1,493	-6,024	-2,069	-11,978

The Board's strategy in dealing with corporation's operating losses has put the financial health of the hospital in jeopardy

The Board's strategy in dealing with corporation's operating losses (budgeting for operating losses and accepting costs and losses that exceed its budgets) has put the financial health of the hospital in jeopardy. The accumulated operating deficits have resulted in a working capital deficit of $28 million at the end of 2001. It is projected that the working capital deficit will grow to over $35 million by the end of 2002.

Operating Plan and Budget for 2000/01

As has been discussed, the Board did not set objectives for 2000/01 and there was no formal operating plan developed.

In March 2000, the Minister of Health and Community Services wrote to the Board to outline the process for reviewing the operating budget "in order to allow Government to meet its financial goal of having balanced board budgets no later than 2002-03."[18] The Department engaged an independent consultant, John Abbott, to serve as Project Manager for a Special Review Team for the Province's Health and Hospital Boards that would:

- determine each Board's base budget for operations based on its current mandate
- identify operational efficiencies that can be achieved over three years assuming no change in mandate
- determine additional efficiencies and acceptable changes in services that could be implemented over the next three years
- identify any other issues that may impact the board's ability to achieve maximum efficiencies in the delivery of health services

We can find no record of the Board approving an operating plan or budget for the corporation for the fiscal year 2000/01.

In its April 2000 meeting the Finance and Audit Committee of the Board discussed the HCCSJ's draft budget for fiscal 2001. The committee reviewed a summary of projected revenues and expenditures. The budget as presented was accepted as a draft for purposes of preparing management reports for April 2000. It was noted that the "Finance Committee will complete further work before submitting it to the Board for formal approval."[19] The projected deficit at that time was $19.2 million.[20] It appears that the Board of Trustees delayed its approval of the 2000/2001 budget until the work of the Special Review Team was completed, which was expected by June 2000.[21] As the board awaited a draft of the review team's work, the 2000/2001 operating budget was not formally approved by either the Finance and Audit Committee or the Board of Trustees. The draft report of the review was not provided to the hospital in September 2000. We can find no record of the Board approving an operating plan or budget for the corporation for the fiscal year 2000/01. However, at its November 7 meeting, in rejecting the findings of the Special Review Team that suggested that the hospital could reduce its planned deficit to $2.1 million, the Finance & Audit Committee proposed "adjusting the Budget by $5.6 million to reduce the budget deficit from $11.9 million to $6.3 million."[22] And, in January 2001, the Board chair requested permission from the Minister to carry a deficit for 2000/01 of $8 million[23]

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[18] Letter dated March 16, 2000, from Roger Grimes, Minister, to Eileen Young, Board Chair.

[19] Minutes of the Finance and Audit Committee meeting, April 25, 2000.

In 2000/2001, the hospital's draft and revised budgets significantly underestimated the losses for the year. The hospital experienced a loss from operations in 2000/2001 of $12 million[24].

Operating revenues were $355.3 million or $58,151 less than forecast. Operating expenses were $367.2 million or $3.6 million more than forecast and the deficit was $11.9 million or $3.6 million more than the apparently final budgeted deficit of $8.3 million.

The hospital identified uncontrollable and unpredictable events that caused much of the increase in the size of the deficit, such as accrued vacation, the delay in move of the Janeway, reduction in nurses funding and management classification appeals.[25][26]

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[20] Finance and Audit Committee Report to the Board of Trustees, April, 2000.

[21] Minutes of the meeting of the Board of Trustees of the Health Care Corporation of St. John's. 23 March, 2000.

[22] Minutes of the Finance and Audit Committee meeting, November 7, 2000.

[23] Minutes of the Finance and Audit Committee meeting, January 23, 2001.

[24] Finance and Audit Committee Minutes of meeting held April 23, 2001. (But, in a letter dated July 5, 2001, the hospital indicated that its audited financial result was a deficit of $13.9 million.)

[25] Finance and Audit Committee Minutes. April 23, 2001.

[26] Letter dated July 5, 2001 from Ed Stratton, Chairperson, HCCSJ Board of Trustees to Gerald Smith, (Acting) Minister of Health

The board was increasingly uncomfortable with the hospital's deteriorating financial position

It must be noted that the board was increasingly uncomfortable with the hospital's deteriorating financial position. At its February 2001 meeting the Board of Trustees heard the concerns of the Finance and Audit Committee with respect to "sudden and unexpected" increases in the hospital's projected deficit.[27] Following the committee's report, the Board Chairperson "reiterated his concern with the growing deficit and reaffirmed his direction to Corporate Team that [the hospital] diligently strive to find a means to ensure that [the] final year end deficit is not beyond the predicted [deficit]."[28] Despite this, it is important to realize that the Board was willing to accept an operating loss of more than $8 million.

Development of the Operating Plan and Budget for 2001/2002

The Corporation's initial budget projections for 2001/02 suggested that the hospital would incur a deficit of $13 million

On March 26, 2001 the Minister of Health and Community Services provided the corporation with the "Provincial Revenue Plan Schedule" which outlined the Departments funding allocation for the HCCSJ for 2001/02. This funding provided for an increase of $33.3 million or 10% over the corporation's originally approved funding by the Department in 2000/01. This increase included a provision of $11.9 million in stabilization funding[29]. The funding announcement came with a statement that the Department "has a clear expectation that each Board will maintain 2000/2001 service levels within each Board's 2001/2002 operating budget without incurring operating deficits." The Minister further required the corporation to submit a recast budget and "detailed explanations and notes on how the Board will manage within its budget without reducing the quality and accessibility of existing programs and services."

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[27] Minutes of the meeting of the Board of Trustees of the Health Care Corporation of St. John's. February, 2001.

[28] Minutes of the meeting of the Board of Trustees of the Health Care Corporation of St. John's. February, 2001.

[29] The hospital asserts that the stabilization funding was allocated based on the forecast deficits for health boards from the prior fiscal year. This proved problematic for HCCSJ "because of unexpected funding shortfalls not know prior to year-end and reduced service levels associated with the site closures, labour disputes and recruitment difficulties". (As stated in a communication to the consultants on March 4, 2002.)

The Minister also introduced the concept of a *Letter of Shared Understanding*, which outlined a number of expectations of the Department and of the board of the HCCSJ.

The Department once again asked HCCSJ to resubmit its budget and any "action required by [the hospital] to live within its 2001-02 budget allocation."[30] Recast budgets were to be submitted by May 15, 2001.

Management indicated that "there are minimal opportunities for decreasing costs in this organization…the only opportunities now would be to reduce services."

Hospital management identified measures that could be implemented in order to eliminate the $8.5 million budget deficit. Management indicated that because "there are minimal opportunities for decreasing costs in this organization…the only opportunities now would be to reduce services."[31] The initiatives identified by management were presented as reductions in the volume of service to be provided by the corporation and included reductions in "operating room times, inpatient beds, diagnostic outpatient services, outpatient Mental Health services, cardiac surgeries, services in the Child Health Program and closing the Bell Island facility."[32] These initiatives were rejected by the Finance & Audit Committee and the committee noted that it had "grave concerns about the impact of these measures…and is not prepared to support them." It was noted that "these measures are completely contrary to the Board's position," which is to avoid reducing clinical services.[33] The board was also concerned that by submitting these measures, the Department may believe that the board endorsed them.[34]

Despite being rejected by the board, the CEO of HCCSJ responded to a request from the Deputy Minister to identify actions that would provide for a balanced budget for 2001/02, the CEO of HCCSJ by submitting these potential service reductions to the Department on May 17, 2001 "with concern and reservation."[35]

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[30] Letter from Robert Thompson, Deputy Minister, to George Tilley, CEO, dated April 19, 2001.

[31] Audit and Finance Committee. Minutes of Special Meeting held May 16, 2001.

[32] Ibid.

[33] ibid.

[34] ibid.

[35] Letter from George Tilley, CEO, to Robert Thompson, Deputy Minister, dated May 17, 2001

The Minister told Board of HCCSJ that "We expect the Board to implement best practices and evidence-based measures to manage within the increased budget envelope"

The Department's review of the hospital's plan concluded that "several of the initiatives outline in your organization's recast budget to mitigate the projected $8.8 million deficit are reasonable and will not impact on the quality of care you provide to your patients."[36] The Minister concluded that the recast budget reflected considerable work by the corporation, but that "some work still remains to achieve" the goal of a balanced budget. And she went on to stress that "A balanced budget is essential in the current fiscal year as no additional funding is available. We expect the Board to implement best practices and evidence-based measures to manage within the increased budget envelope." [37] The Board was further advised that the Department "cannot support measures that result in a reduction in access and quality, as these are inconsistent with [the Province's] budget strategy and with Government's desire to stabilize the system…"[38]

The Minister was "disappointed that the board did not bring forward measures to achieve a balanced budget position" for 2001/2002

In September of 2001, the Department instructed all of the hospital boards to "initiate dialogue with the province's public sector unions to identify cost-savings initiatives to reach balanced budgets."[39] The HCCSJ undertook a consultation process with the four employee groups (NAPE Support, NAPE Lab & X-Ray, AAHP and NLNU) with the objective of identifying cost reduction initiatives. There is evidence that these consultations were productive.[40] The Department of Health and Community Services acknowledged the success of the process and "encourage [d] [HCCSJ] to continue this open dialogue."[41] Despite this inclusive approach to developing the budget, the Minister was "disappointed that the board did not bring forward measures to achieve a balanced budget position" for 2001/2002.[42] Through this extensive and extended process of review the hospital was able to find reductions in costs that would not reduce the hospital's service volume of approximately $6.4 million[43] or less than 2% of its operating budget.

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[36] Letter from Robert Thompson, Deputy Minister to George Tilley, CEO, dated June 20, 2001.

[37] Letter from Julie Bettney, Minister, to Edwin Stratton, Board Chair, dated June 27, 2001.

[38] Ibid.

[39] Department of Health and Community Services. *Health minister announces deficit-reduction measures*. News Release. October 30, 2001.

[40] Letter from Ed Stratton, Chair, to Hon. Julie Bettney, Minister, dated 16 October 2001.

[41] Letter from Hon. Julie Bettney, Minister, to Ed Stratton, Chair dated 29 October 2001.

[42] Ibid.

HCCSJ Board was convinced that there were no additional savings that would not reduce service

Despite the explicit direction of the Minister, the hospital was unable or unwilling to reduce its costs further. The Board, however, was convinced that there were no additional savings available to it that would not involve unacceptable (to the corporation and the Minister) reductions in service volume[44]. The hospital's inability to submit a balanced budget led to the government's decision to undertake this operational review.[45]

Monitoring Financial Health

The HCCSJ has a system in place to track and explain variances from budgeted revenues and expenditures.[46] These reports are provided regularly to the Board and contain:

- Revenues
    - Outpatient
    - Inpatient
    - Other Income
- Expenditures
    - Administrative and Support
    - Clinical Programs
    - Therapeutic Services
    - Educational Services
    - Other

For each area of responsibility in each category, the month-to-date (MTD) and year-to-date (YTD) actual variances from budget (broken into compensation and supplies) are provided. Narrative comments are provided to explain the nature of the MTD and YTD variance in each department. However, there are several opportunities to improve the hospital's approach to analyzing variances from plans and budgets.

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[43] Derived from the difference between the original deficit projection of $13 million to the final deficit projection of $6.6 million.

[44] It should be noted that prior to the request from the Minister in 2001, the corporation had achieved significant efficiencies through the merger by reducing management and consolidating operations into a smaller number of sites.

[45] Letter from Hon. Julie Bettney, Minister, to Ed Stratton, Chair dated November 2, 2001

[46] Health Care Corporation of St. John's, *Financial Analysis*.

We feel that financial and performance reporting to the board should help it to understand:

- the causes of variances from plan,
- the impact of the variances on the running rate of costs for the hospital and
- the potential impact on year-end results

and should identify variances that might be corrected through management initiatives. Thus variances from budgeted levels of expenditure should be identified and measured as variances that are caused by:

- Variances from planned volumes/workload
- Variances from planned unit costs (of labour or materials)
- Variances from planned levels of productivity

Making these analyses available to the board would allow board members to better exercise their responsibility for monitoring and maintaining the financial health of the hospital.

Thus we feel that the effectiveness of these reports could be enhanced with the following changes:

- The reports should present a forecast of year-end results and a summary of changes in revenues and expenses that are forecast to lead to any variances from the budgeted results. The year-end projection helps to determine the need for and the urgency of corrective action to deal with variances from plans and budgets.
- The narrative component of the report should be expanded and enhanced to provide a discussion of opportunities for corrective action to achieve the operating plan or budget targets and an explanation of actions undertaken to correct for negative variances. We further suggest that the Board should request management to propose and undertake these mid-year corrective actions to achieve budgeted levels of performance.
- The report should present selected volume statistics for the corporation as a whole (separations, patient days, etc.) and

selected operating units and services (OR Cases, Emergency Visits, MRI Exams, etc.), and variances from the plan.

- The reports should also include a set of corporate performance indicators that present a comparison of the corporation to benchmark levels of performance of other teaching hospitals. Indicators could include nursing and total paid hours per patient day; total paid hours per adult weighted case; adult and newborn average length of stay; administrative expenses as a % of total operating expenses, etc. Also, performance on these indicators should be contrasted with budgeted levels of performance. The reports should provide explanations of variance and planned corrective actions for these productivity measures as well as for financial measures.

It should be noted, however, that the organization has established a strong structural foundation to support variance analysis. It has embedded variance analysis into its management processes. It now needs to take advantage of its successes to better control costs in relation to plans.

It is recommended that:

(6) The CFO should ensure that all analysis of variance includes consideration of the implications of the variance for year-end departmental, program and hospital results.

(7) The CFO should further expand and enhance financial and statistical reporting to the Board to include more comprehensive analyses of variances from plan that provide not only the cause of the variance but also potential corrective actions.

(8) The CFO should further expand and enhance statistical performance reporting to the board to provide comparisons with similar hospitals in Canada.

Monitoring Effectiveness of Management

The board of a hospital bears overall responsibility for the effectiveness of the hospital in fulfilling its mission. It is, however, dependent on management to provide it with sufficient information to fulfill this responsibility. We feel that reporting structures and mechanisms established by HCCSJ do not allow the Board to effectively monitor the effectiveness of management.

The board receives regular reports from the Chair and CEO. Each report provides an update of current issues facing the corporation. The board also receives a report from each of the standing committees. These committees such as the Finance and Audit Committee and the Quality Initiatives Committee are actively engaged in monitoring operational and management issues facing the organization.

As we have discussed, the Board is not setting annual objectives (other than budget targets) against which the effectiveness of management can be evaluated. Although its strategic directions do communicate to management the Board's desires regarding the focus for management activity, management has not established a framework for formally and systematically reporting on its actions in relation to these directions. The Board is not receiving systematic reporting of the hospitals overall performance related to its:

- Responsiveness to community needs
- Quality of care
- Efficiency of care
- Organizational climate

that would allow it to track the hospital's/management's performance or success in achieving the related corporate objectives.

These measures would be further enhanced by the addition of external benchmarking comparisons to the measurements of hospital performance.

It is recommended that:

(9) The Corporate Team should develop a system for regular reporting to the Board of organizational performance in relation to the board's objectives for the hospital.

Ensuring & Monitoring Quality of Services

A fundamental responsibility of governance is ensuring and monitoring the quality of services and continuing improvement of quality in all aspects of hospital operations. The Quality Initiatives committee has a process for the board to monitor the quality of hospital services:

- Receives and considers a monthly reports on the quality of care in various departments/areas of responsibility;

- Receives reports from the Director on patient compliments and concerns
- Receives periodic reports on selected other indicators of quality of hospital services (e.g. waiting time for CT and MRI, etc.)
- Receives annual reports on HCCSJ quality by external agencies such as Hay Benchmarking Comparisons and Maclean's reports on health services.

The Quality Initiatives Committee is also informed of investigations and corrective action by management to address issues of quality revealed through the existing measurement tools. The committee is also monitoring the success of management initiatives to improve quality.

The Board was also actively involved in the Canadian Council on Health Services Accreditation review of the hospital. It has reviewed the findings and is monitoring the corrective actions initiated by the hospital in response to the Accreditation Report.

As with all processes there are opportunities for the board to better understand the quality of care and services being provided by the hospital.

- The Committee does not receive a standard set of quality indicators, preferring instead to receive periodic reports from various departments/areas of responsibility. Development of quality indicators that are reported to the committee on a regular (i.e. quarterly) basis would allow the Board to be comforted that the hospital is achieving and maintaining an acceptable level of performance or to alert the committee to areas that require particular attention and corrective action by management or the medical staff
- The departmental reports provided to the committee are periodic in nature and there are no mechanisms in place to monitor performance over time or report on what has changed since the previous review.
- The committee does not receive comparisons of the performance of HCCSJ with other like academic health science centres from across Canada. The development of standardized quality of care indicators should incorporate the ability to compare HCCSJ with the performance of comparable hospitals across Canada. This will make the information provided to the Board much more useful in

understanding the need for and/or opportunities to improve the quality of care and service being provided by the hospital.

- The hospital might also consider developing or obtaining quality measurement tools for other key areas of hospital performance such as dietary, housekeeping, imaging, laboratories and providing summaries of these measurements to the Quality Committee.

Quality Monitoring Through the MAC

Quality of care at HCCSJ is also monitored through the Medical Advisory Committee. One of the functions of the Medical Advisory Committee is to "advise the Board on the quality of medical care," at the hospital.[47] At its monthly meetings, the MAC receives reports from each of the clinical chiefs. These reports vary in the level of detail and data provided; there are no standardized measures or indicators that are reported to the MAC. This reporting could include indicators of the quality of medical/hospital care including ALOS, Mortality Rate, Complication Rate and Unplanned Re-admissions for each Division of each Medical Department of the Hospital

The MAC provides a summary of these reports to the Board. For the board to be better able to understand the quality of care at the hospital, the MAC should more formally report these results to the Quality Initiatives Committee. Also, these quality measures would be further enhanced and more meaningful to the Board if they were contrasted with the performance of other like hospitals across Canada.

The MAC should also develop a protocol for reporting the findings of its Infection Monitoring Program to the Quality Committee of the Board.

It is recommended that:

(10) The Medical Advisory Committee should develop a standardized set of quality indicators to be reported to the board.

(11) The Medical Advisory Committee should develop a protocol for reporting the findings of its Infection Monitoring Program to the board

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[47] Health Care Corporation of St. John's. *Medical Staff By-Laws* Section M8:13.

Annual Objectives and Performance Review of CEO

It was reported that the Board selects the CEO in collaboration with government. The selection Committee for the current CEO included 3 from members from the HCCSJ Board and 3 members from Government. The Treasury Board reviews and approves the appointment. The CEO has an employment contract with the Board. Given this process, the CEO is as much an appointee of the Government as of the Board of the corporation. Given the importance of the CEO to the success of the Board in fulfilling its responsibilities, it might be better if this appointment was more fully the responsibility of the board, rather than an equivalent responsibility of the Department and the corporation.

Formally, the Board interacts with the organization through its CEO. The annual process of setting and communicating the objectives for the CEO is critical in setting the direction for the entire organization. The review of the CEOs performance in relation both to these objectives and to the responsibilities of the position is a critical tool for reinforcing the importance of both the objectives and also the values and desired culture of the organization.

The annual objectives for the CEO should include, as their fundamental component, the annual objectives for the corporation. As has been discussed, the corporation does not set annual objectives for the organization and as a result there are no objectives set for the CEO on an annual basis.

Instead the Board has communicated to the new CEO that he will be evaluated on progress toward achieving the corporate strategic directions and in relation to the performance of his responsibilities. A performance evaluation committee of the board has been established to conduct and communicate the findings of this review.

It is recommended that:

(12) The Chairperson of the Board should ensure that the corporation's annual objectives form the core of the annual performance objectives for the CEO.

2.3 Management Structures & Processes

It is generally accepted in the hospital industry that management is "responsible for the effective and efficient operation of the hospital in accordance with the direction set by the board".[48] Management of a hospital is expected to fulfill its responsibility by:

- Providing leadership to the hospital community
- Developing and implementing strategies for achieving the hospital's objectives
- Creating organizational structures and processes
- Directing and overseeing the delivery of hospital services
- Improving efficiency of hospital services
- Improving effectiveness and quality of hospital services and care
- Recruiting and developing staff
- Reporting to Board on the effectiveness of the hospital

The organizational health and effectiveness of a hospital is dependent on the successful execution of these responsibilities.

In this section we evaluate the management structures and processes of the Health Care Corporation of St. John's in relation to these expectations of the management of a hospital.

Senior Management Organization

Senior management at the Health Care Corporation of St. John's is challenged by the need to operate acute, rehabilitation and chronic hospital care and support services on five sites while integrating programs and services across the sites. The hospital has chosen a mixed approach to the management of programs, sites and corporate services. It has a small number of corporate officers overseeing a senior management team made up of program and functional centre directors. Clinical services are managed using a program management model. Support and administrative services are organized more traditionally using functional centre management. Management of both programs and services span the five facilities. There is no management structure assigned to or responsible for each or any of the facilities. However, each of the corporate officers is located and has oversight responsibility for one of the 5 sites.

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[48] From "*Into the 21st Century: Ontario's Public Hospitals, Report of the Steering Committee, Public Hospitals Act Review.*" Ontario Ministry of Health, February, 1992.

The current management structure has allowed the corporation to significantly reduce the number of management positions from the number used by the legacy organizations

This structure has allowed the corporation to significantly reduce the number of management positions from the number used by the legacy organizations. As will be discussed later in this report, we feel that there may be opportunities to take advantage of the program management structure to further reduce the number and cost of management in the corporation.

The senior management of the hospital includes the CEO and five Vice Presidents organized into the Corporate Team. This is an appropriate number of participants that allows for discussion and consensus building.

Corporate Team meets weekly, on Tuesday mornings, for approximately four hours. These meetings are long, with discussion on a wide variety of operational issues related to clinical and support services. It appears that issues continue to be brought to the Corporate Team for discussion, until a resolution is reached. The decision making process is based on consensus among Corporate Team members.

Corporate Team discussions are wide-ranging, as it considers issues such as site redevelopment, labour strife and back-ups in the Emergency Department. However, Corporate Team has occasionally found itself discussing relatively trivial issues such as stolen vacuum cleaners[49] and the assignment of lap-top computers to individual staff members.[50] Consideration of these issues reduces the effectiveness of the Corporate Team and might better be addressed within departments, or in consultation with the appropriate Vice Presidents.

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[49] Health Care Corporation of St. John's. *Corporate Team Minutes*, September 11, 2000.

[50] Health Care Corporation of St. John's. *Corporate Team Minutes*, November 28, 2000.

Management has allowed the Finance & Audit Committee of the Board to assume responsibility for monitoring, investigating and to some extent, directing operational and financial performance of the hospital

Meeting minutes suggest that Corporate Team has spent little time discussing monthly operating results, variance reports, or the development of the operating budgets. Meeting minutes also suggest that the Corporate Team does not receive regular reports of clinical activity or operational activity. Historically, management has allowed the Finance & Audit Committee of the Board to assume responsibility for monitoring, investigating and to some extent, directing operational and financial performance of the hospital. With new management, the corporate team appropriately, has begun to assume responsibility for monitoring, investigating and directing operating and financial performance of the hospital and then reporting to these initiatives to the Board. This behaviour should be continued and reinforced. The Board should monitor performance; management should be responsible for directing operations to ensure performance that achieves the board's objectives.

Strategic Planning

As has been discussed planning is a critical component of hospital governance and management. In keeping with the need to distinguish between governance and management, organizational objectives and long-range goals for programs and services should be considered primarily a responsibility of governance; strategies and operational plans for achieving these objectives and goals should be considered primarily a responsibility of management.

Management should participate in and provide support for the Board's initiatives to:

- Establish the objectives for the hospital (Vision, Mission and Core Values)
- Select the health needs of the composite community that might be appropriately served by the hospital (Role Statement)
- Determine the programs and services to be offered by the hospital in response to the health needs of the population and in order to achieve the hospital's objectives. (Long-Range Plan)

However, management should be responsible for developing a strategic plan that identifies the initiatives that will be employed to implement the enhancements, expansion and/or rationalization of programs and services suggested by the long-range plan thereby achieving the Vision and fulfilling the Mission of the hospital. It is also responsible for translating the objectives, plans and strategies into an operational plan that will specify the activities to be initiated in the each fiscal year.

As discussed earlier, the corporation published its Strategic Plan in May 2001. Although the plan identifies specific goals, objectives, target dates and follow-up responsibility, it does not identify a process to monitor the progress of implementation or provide feedback to the board with respect to the achievement or non-achievement of the Plan.

The plan does not define the desired future role for the corporation in responding to the needs of its communities nor does it contain long-range goals and objectives. Planning only extends to early 2003, making the document similar to an operational planning document, rather than a long-range strategic plan. The hospital has not as yet developed a long-range strategic plan to guide its future growth and development.

Operational Planning & Budgeting

Operational planning and budgeting are the annual management processes through which a hospital implements its long-range plans and fulfills its mission. Typically these processes will include setting:

- Annual objectives for the organization
- Plans for the development, enhancement, maintenance, contraction or elimination of programs and/or services
- Performance expectations related to the volume, productivity, cost and quality of services provided by each program and by each therapeutic, diagnostic, support and administrative service department.
- Targeted expenditure levels for each element of the program
- Estimates of revenues

A hospital needs the operating plan and related budget to describe and quantify its annual objectives and its planned program, service and fiscal initiatives.

We feel that an effective operational planning and budgeting process should be based on:

- Estimates of patient volume
- Targets for Clinical Efficiency
  - % Ambulatory
  - ALOS
- Targets for Content of Care
  - Functional Centre Workload per Separation/Ambulatory Procedure

- Targets for Operating Efficiency
  - Departmental Productivity
  - Unit Cost Estimates for Labour
  - Targets for Material and Supplies Productivity

The plan and budget should be reviewed and approved by the board, and thus is one of the most effective vehicles for ensuring accountability of hospital management and staff to the board, and the communities served by the hospital.

Senior Management of HCCSJ is committed to effective financial management processes, and has made progress in strengthening these processes

The current Senior Management of HCCSJ is committed to effective financial management processes, and has made progress in strengthening these processes. It goes without saying that the organization has faced tremendous challenges over the past five years starting with the merger and including site closings, the capital redevelopment, and restructuring of hospital operations. The current operational planning and budgeting process is as follows:

- In October the Department of Health and Community Service issues a request to hospitals to prepare a financial forecast for the next fiscal year.

In response to this request:

- management requests each operating area to prepare their forecast and these are consolidated and submitted to the Department of Health and Community Services
- management then develops a 3 year forecast based on expected changes in medical staff appointments, volumes, and expenses
- the operating areas commence preparation of detailed cost centre budgets
- cost centre budgets are presented to the Corporate team for review and consolidation into a budget for the corporation
- the consolidated budget is presented to the Finance and Audit Committee for review
- based on this review, the Finance & Audit Committee recommends the revised budget to the Board of Trustees.

The operating planning and budgeting process used by the hospital does not formally include consideration of an operating plan for the hospital that provides an indication of objectives for the organization for the coming year and or planned major initiatives.

The operating planning and budgeting process used by the hospital also does not formally include consideration of anticipated volume or productivity targets in determining required or budgeted hours for the hospital as a whole, for the hospitals programs or its patient care, therapeutic, diagnostic or support service departments. Nor does it appear that the budget development process used by the hospital formally considers the productivity that will result from the hours that are being budgeted.

The process starts with supply targets for positions rather than with estimates of patient volume and expectations for content of care and productivity. Our experience suggests that developing a budget with supply targets for staff hours rather than with estimates of patient volume and expectations for content of care and productivity leads departments to focus on continuing the past rather than on how they can become more productive in the future. They do not focus on reducing the number of hours or costs required to provide services to the same volume of patients. Departments will assume that they will be expected to provide the prior years volume and content of care and that they will be allowed to operate at the prior year's staffing levels or higher. It will not focus departmental efforts on continually improving the approach to service delivery to improve productivity and/or quality.

However, the process at HCCSJ is an inclusive process that involves clinical and administrative leadership and the budget is built upon the input from the leadership team.

We feel that the operational planning and budgeting processes could be strengthened through:

- informing the operational planning and budgeting process with parameters that minimally specify:
    - organizational objectives for year
    - assumptions regarding patient volume
    - commitments to new program and service initiatives
    - efficiency targets
- performance based budgets,
- team-based budget reviews: each operating area should present its budget to the rest of the leadership team to ensure implications are understood and addressed, and to broaden ownership of the combined budget,

- a broader investigation of the assumptions and risks in the budget, and a sensitivity analysis presenting scenarios if the assumptions do not hold
- starting the process sooner

It is recommended that:

(13) The CFO should initiate the budget process by communicating the corporations operational planning and budgeting parameters.

(14) The Vice Presidents should ensure that each operating area develops its plan and budget by translating corporate planning and budget parameters into functional centre parameters defining expected service content, workload, productivity targets, overhead staffing requirements and materials productivity targets.

(15) The CFO should ensure that corporate review and evaluation of budgets includes review of changes from prior years and performance against targets.

(16) The CEO should ensure that finalization of the budget includes review of each operating areas plans and budgets by the rest of the leadership team.

(17) The CFO should ensure that the budget package presented to the Board includes assumptions and risks, and sensitivity analyses related to critical planning/budgeting assumptions.

The principal focus of the hospital's fiscal planning and management seems to have been looking for external solutions to its fiscal problem through increases in government funding. Although there has been attention to changing care and service delivery processes there has been less attention to improving efficiency to mitigate the impact of increasing costs of labour and supplies to allow the hospital to maintain patient volume while containing or reducing operating costs.

The hospital's fiscal focus seems to have been on increasing its funding from the Department of Health and Community Services. The rationale for this focus has been that the hospital feels that its funding is significantly less than what is required, given its unique mandate to provide tertiary services to the residents of Newfoundland.

HCCSJ has proceeded to spend on hospital operations in excess of the funding provided or committed by the Department. It is now forecasting a working funds deficit of approximately $35 million by the end of fiscal year 2001/02.

Assuming that the Department of Health and Community Services would eventually confirm the Corporation's assumptions and decisions with respect to the adequacy of its operating funds, HCCSJ has proceeded to spend on hospital operations in excess of the funding provided or committed by the Department. The hospital has allowed its fiscal position to dramatically deteriorate. It is now forecasting a working funds deficit of approximately $35 million by the end of fiscal year 2001/02.

It is recommended that:

(18) The Health Care Corporation of St. John's should develop and implement plans to provide hospital services within the revenues committed to it from the Department of Health and Community Services and available to it from other sources.

Controlling Expenditures

The primary focus of management of a hospital is providing for and ensuring the effective and efficient provision of patient care. Controlling expenditures suggests that management needs to set in place processes for managing hospital efficiency. These processes should include:

- ***Cost Management:*** Controlling the cost of each unit of labour and material used by each department of the hospital in providing its services or producing its products.
- ***Productivity Management:*** Measuring, monitoring and controlling the number of units of labour and materials employed in producing departmental services
- ***Utilization Management:*** Measuring, monitoring and controlling the resources used in each episode of patient care (including length of stay in hospital)
- ***Admission Management:*** Ensuring the appropriateness of each episode of patient care
- ***Volume Management:*** Measuring, monitoring and controlling the number of episodes of patient care.

Management of a hospital uses these processes to manage the overall content and cost of hospital operations. To be effective in the execution of its responsibilities, management needs to be able to influence and ultimately manage all aspects of the clinical and non-clinical activities of a hospital.

Through its management structure and management processes, the management of the Health Care Corporation of St. John's has and is establishing structures and processes that will allow it to effectively and aggressively manage hospital costs. However, as has been discussed previously, aggressively managing and reducing costs has not been a focus of the managers of the hospital.

The most important aspect of variance analysis is not the determination of the cause of the variance, but rather the determination whether it is a controllable variance and the appropriate corrective action that should be initiated

In refining its approach to variance analysis, it will be important for the hospital to remember that the most important aspect of variance analysis is not the determination of the cause of the variance, but rather the determination whether it is a controllable variance. If the variance is controllable then corrective action should be initiated; if it is an uncontrollable variance, then re-budgeting should be considered to reflect the uncontrollable/unplanned event. Corrective actions should be taken in response to significant departmental variances. When these actions will impact on departments outside the program portfolio, the proposed plan of action should be reviewed with the Corporate Team prior to implementation. Corrective actions with significant implications for the hospital and/or re-budgeting with significant implications for year-end results should be reviewed with the Finance and Audit Committee of the Board.

A key reason for monitoring the variance reports is to determine the potential impact on ongoing performance (the 'running rate') and year-end results

A key reason for monitoring the variance reports is to determine the potential impact on ongoing performance (the 'running rate') and year-end results. If the current month variance is the beginning of a negative trend then it should be identified early and addressed before it has a negative impact on year-end (and future years') results. If the year-to-date performance is an erosion of performance than it should be addressed so that performance can be restored to targeted levels. The focus needs to be on determining whether performance can be restored to targeted levels. This will require reporting and analysis of both current month and year-to-date performance.

While it is useful to examine variances by program, more detailed data (i.e., variance by functional centre) would also be useful. Functional centre data would help to direct the focus of management's efforts to implement corrective actions.

The variance reports need to focus on materiality. Since these reports are being prepared for the hospital's Vice Presidents (and members of the Board of Trustees), they need to be able to focus their efforts where there will be the largest impact. It might be useful if summary reports provided a sorting of functional centre results from the largest to the smallest variances from plans and budgets. The Vice Presidents could then work with their Departmental Managers with larger variances to determine whether the current and/or year-to-date variances will impact on the year-end result and determine whether there is a feasible corrective action.

Also, the summary status report should identify any common themes across the departments that might suggest a problem that pervades the program area and that might require corporate rather than sectoral initiatives to resolve.

It is recommended that:

(19) The CFO should improve the content of the variance reporting provided to the Corporate Team

(20) The CEO and Corporate Team should make cost management and productivity improvement a priority of management and staff throughout the organization.

Management Reporting

There must be a balance in management reporting. Too little information and too much information should both be avoided. Management information should focus on the "critical success factors" of an organization. For any organization, the critical success factors are the limited number of areas in which satisfactory results must be achieved in order to ensure the successful performance of the organization. These are the few key areas where "things must go right" for the organization to flourish. If results in these few significant areas are good, the organization will be successful. If results in these few areas are not adequate, the organization's overall performance for this period will be less than desired. The critical factors are areas of activity that should receive constant, careful attention from management. The current status of performance in each area should be continuously measured and made available to the appropriate managers.

The critical volume, productivity, cost, revenue and overall performance targets specified in an operational plan/budget should provide the foundation for effective management reporting. Management reports should provide managers with an indication of departmental performance in relation to operating targets and budgets for:

1. Utilization (e.g., Laboratory Tests per Separation)
2. Volume (e.g., Laboratory Tests)
3. Workload (e.g., Laboratory Workload Units)
4. Productivity (e.g., workload units per variable worked hour – per UPP worked hour)
5. Variable/UPP worked hours
6. Overhead worked hours (Management and Operational Support hours)
7. Benefit hours
8. Total paid hours
9. Total Labour Costs
10. Total Supplies Costs
11. Total Operating Costs
12. Revenues
13. Quality of service

Then, throughout the year, an effective management reporting system will concentrate on:

- comparing actual results to targets, and
- providing this information in a timely and accurate manner to support operating decisions.

so that managers are able to understand and explain significant variances and develop plans for corrective actions to achieve the budgeted levels of performance.[51]

Reporting for Departmental Managers

Departments receive monthly operating statements and labour distribution reports. These provide current month budget, actual, and variance along with YTD budget, YTD actual and variance. But the focus of these reports is spending, not workload, productivity or quality. Also there are no comparisons to the prior year's performance. The hospital should provide each program and each functional centre with higher level summaries of performance in relation to critical operating and budget targets suggested previously. These can then be the basis for more effective variance analysis throughout the hospital.

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[51] Alternatively, if the causes of variance are outside the control of the hospital, consideration might be given to formally changing the performance targets.

The current systems and information to support management have some fundamental deficiencies:

- Integrity of the data has been sighted as a key issue with examples of inconsistency in statistical and utilization data depending on the source
- Availability of the data is another key issue due to the lack of a standardized set of statistical and utilization reports resulting in the use of ad hoc reports and the concern that the information is not presented consistently or in a format that facilitates use by managers
- Incompleteness of the data is another key issue due to the inability to link financial, statistical, utilization and workload data
- The hospital's systems currently cannot match salary with non-salary expenses and cannot link to statistical, utilization, and workload data

However, management has recognized the need to improve the quality of management information at HCCSJ. It has developed an information management strategy to fiscal 2003 and has achieved the following milestones in addressing some of the identified deficits:

- harmonization of the Meditech information system across all sites
- harmonization of the unique patient identifier across all sites
- initiation of a process to establish the statistical general ledger
- commitment to HRIS

There is a clear direction and plan to further improve the usefulness of management information with a focus on improving data quality. However, management information is only part of the issue. Analytical support to all levels of management, especially program management, will be critical to the hospital's success in effectively managing clinical utilization and improving clinical and operational efficiency and thus managing the corporation's operating costs. HCCSJ should increase the level of analytical support available to managers through the creation of a decision support function that:

- interprets and analyzes health information and provides standard and adhoc reports that integrate clinical and statistical data

- conducts inter-hospital comparisons of clinical and operational efficiency, content of care and cost per case
- conducts benchmarking of clinical and operational processes to improve quality and efficiency of hospital care and service
- ensures data quality and corporate consistency
- collects, integrates, and organizes data into a data warehouse

It is recommended that:

(21) The CFO should establish a data quality task force chaired by the Director of Finance and Budgeting to develop a strategy to improve data integrity.

(22) The CFO should establish a management information task force to define the information requirements of managers and the key performance indicators that should be used to monitor organizational performance.

(23) The Director of Finance and Budgeting should compile an inventory of all statistics by source that are reported internally and externally, and clearly establish the authoritative source of each statistic

(24) The CFO should increase the level of analytical support through the creation of a decision support function

2.4 Human Resources Management

There are three major areas of human resources management at HCCSJ that require attention: Attendance Management, Performance Management and Labour Relations. These have been identified by the corporation and have been the subject of recent studies by Hewitt Associates who have recently completed an Operational Review of Human Resources[52] at HCCSJ and Morneau Sobeco who conducted a Sick Leave Study[53] in 2001. To ensure completeness of this report, we address similar issues to the findings of these studies. It should be noted that these issues are being addressed by the corporation and the structural prerequisites for effective action have been or are being put into place. What is now required is effective and sustained implementation of these improved human resources management processes.

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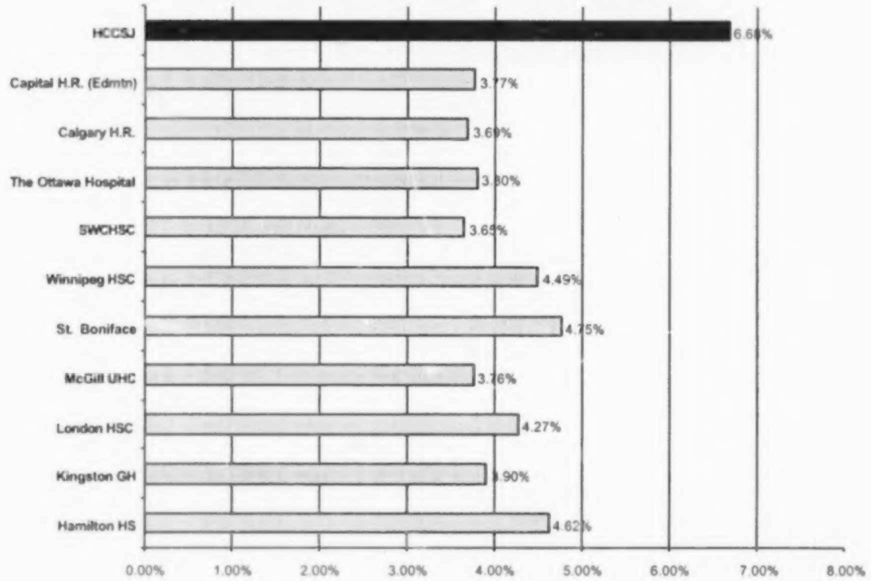
[52] Hewitt Associates HR Operational Review Status Report , November 2001

[53] Morneau Sobeco Sick Leave Study, October 2001

Attendance Management

The Human Resources leadership team acknowledges that there is significant opportunity and need to reduce the amount employee absence due to illness and/or accident. Senior management has identified improvement in this area as a strategic imperative[54]. Sick time usage at HCCSJ exceeds that of any other major academic health science centre in Canada. The exhibit following shows paid sick time as a percentage of total worked hours for each of the comparator hospitals used in this review.

Exhibit 2.2
Sick Time Percentage of Total Worked Hours



With more effective interventions, the corporation should be able to reduce employee absences and generate significant cost savings. The hospital should develop and implement an Early Intervention Management Program to reduce employee absenteeism. The critical features of such a program include:

- High level support from the C.E.O. and all members of the senior management team.

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[54] It should be noted, although sick time usage at HCCSJ is extremely high in relation to other Canadian hospitals, HCCSJ has the lowest lost time experience of all the Health Boards in Newfoundland and Labrador.

- Collaboration among Human Resources, Occupational Health and Unions.
- Clearly written guidelines communicated to all employees, supported by education for all employees and managers.
- Consistent application of the program for all employees, full and part time,
- Consistent application of the program for all absences due to illness, accident or personal issues. These include short and long term, compensable and non-compensable absences.
- Regular monitoring and evaluation of the outcomes of the program.

The pending introduction of new provincial legislation governing absence due to work related illness and/or accident that will require early intervention and return to work will provide opportunity to implement a new culture to attendance management. St. John's has enjoyed some recent success with their management of absence resulting from work-related illness and/or accident. A consistent approach should be taken for all absences both work and non-work related absences and should include the following core elements:

- Clear guidelines that define sick for both short and long term absences
- Tracking and analysis of employee absences at the employee, program/department and hospital wide levels
- Regular contact with and monitoring of the health status of the absent employee
- A team approach to early intervention and return to work involving the employee, union. manager, occupational health and human resources
- Return to work programs that address the needs of individual employees, their work areas giving consideration to safety issues and the impact on patient care and co-workers.

It should be noted that these suggestions with respect to attendance management and proposed changes to the collective agreement provisions governing sick leave are consistent with the findings of the Morneau Sorbeco Sick Leave study commissioned by HCCSJ in the Fall of 2001.

It is recommended that

(25) **The Vice President, Human Resources should develop and implement an Early Intervention Management program to reduce employee absence due to illness and/or accident.**

Performance Management

The recent Human Resources operational review (and confirmed by our investigation of management processes at HCCSJ) found deficiencies in performance management and evaluation processes.

Accountability is supported and enhanced through performance management. Given the changes in management and the number of new managers, performance management is essential to communicate the organization's expectations of its managers and to address their developmental needs. The corporation needs to ensure that it has an active performance management program for its managers. This program should include, at a minimum:

- Accountability for the achievement of objectives which support the Corporation's strategic direction.
- Reinforcement of the Corporation's core values as critical in guiding management team behaviours
- Identification of the training and developmental needs of manager's.
- Clear articulation of performance expectations and targets
- Regular review of performance of each manager

It is recommended that

(26) **The Vice President, Human Resources should develop and implement a Performance Management program for managers at HCCSJ.**

Labour Relations Issues: Management of Grievances

Restructuring, staff layoffs and a continuous experience of difficult labour disputes have resulted in a challenging labour relations environment at HCCSJ. The level of trust required for management to work collaboratively with employees and their unions has been significantly compromised. Of particular concern are the costs of managing up to 600 new grievances each year and the potential liability associated with a backlog of some 2000 outstanding grievances. This issue needs speedy resolution to restore a collaborative, supportive working culture at HCCSJ. Human resources should develop and implement a plan to:

- Identify the potential liability that could result from the backlog of grievances.

- Actively pursue the resolution of these grievances through negotiation and/or arbitration as provided for by the collective agreement.
- Ensure that future grievances are addressed in a timely manner respecting the grievance resolution process and time limits provided for by the collective agreement.

It is recommended that:

(27) The Vice President, Human Resources should resolve outstanding grievances and develop a process to expeditiously deal with grievances.

Labour Relations Issues: Provisions of the Collective Agreement

It is recognized that the St. John's Health Care Corporation is but one participant in the provincial bargaining process and is therefore unable, on its own, to negotiate changes to the provincial agreements. There are, however, three areas where leadership is required in advancing change that could result in significant cost savings for the organization.

Overtime payments to nurses for providing report

Over time for nurses is calculated in 30-minute intervals at 1.5 times their rate of pay. Nurses working beyond their daily hours of work are therefore entitled to a minimum payment for 45 minutes, regardless of the actual time worked. Nurses have a professional responsibility for communicating the status of their patients to their peers at the change of shift. The fulfillment of this professional responsibility should not result in an automatic payment of 45 minutes. An overtime grace period not exceeding 15 minutes at shift exchange should be considered for the purpose of providing report and fulfilling this professional responsibility of nurses working at HCCSJ.

Sick time provisions

The collective agreement provisions that provide for the accumulation of a "bank" of sick days are contributing to a culture of entitlement to days off as opposed to the intended purpose of providing income protection for employees experiencing legitimate illness. And yet, the agreement does not provide any income protection for employees who experience a non-work related long term illness or disability. Additionally, the voluntary nature of employee participation in early return to work programs is not in either the employer's or the employee's interest.

Personal Paid Leave

The collective agreement also provides for personal paid leave in addition to paid leave for vacation, holidays and illness. We understand that employees are taking on average 2 of the 3 days of paid personal leave available to them subject to the qualifying criteria. Paid personal leave does not exist in most other jurisdictions. The high rate of utilization of this entitlement is further exacerbating the hospital's high replacement costs.

The current provisions of the collective agreement both inhibit the ability of employer to legitimately manage employee absence and do not meet the income protection needs of employees.

It is recommended that:

(28) The Vice President, Human Resources should play a leadership role in advancing through the provincial bargaining process changes to the collective agreement provisions governing over time for nurses and sick leave and personal paid leave provisions for all union employees.

2.5 Medical Staff Involvement in Management

The Corporate Team includes one physician, the Vice President of Medical Services. The program management structure provides an opportunity for involvement of the medical staff in the management of hospital operations and in management decisions regarding the use of hospital resources. Additionally, the MAC is available to allow the medical staff to exercise direction and control over the quality of medical care at the hospital. Unfortunately, neither of these two structures is as effective in their respective roles as is needed by the hospital.

Relations between medical staff and management and board

Overall, the relations between medical staff and management and board are apparently quite good. The prevailing opinion among the medical staff seems to be that senior management and board are doing the best they can (and that it is the government that are creating the problems due to lack of adequate funding).

Relations between the medical staff, administration, and the university/medical school

The relations between the medical staff, administration, and the university/medical school are remarkably good. There is widespread recognition of the critical importance of the medical school in helping to provide the tertiary services for the province through recruiting and attracting appropriate personnel. There is no question that most of the tertiary services in the province would collapse in the absence of the medical school, with the resultant serious access and cost problems for the population to obtain appropriate services. There is no dispute about the policy concerning all medical staff having university appointments. The functional relationships are good and there is strong support and trust for the Dean.

All medical staff recruitment is done jointly between the hospital corporation and the university. There is a structured process for impact assessment for new appointments. There is a significant problem about the lack of critical mass for many subspecialties, which is inevitable in an organization of this size in a province of this size.

Physicians in administrative positions

The physicians in administrative positions have varied experience and expertise in their roles. There are some excellent individuals who understand well their role within the overall governance and management structure; whereas others, although well intentioned, lack sufficient training and experience to adequately understand and/or fulfill their roles and responsibilities. Some have misinterpreted their role to be advocates for themselves and their colleagues. Comments like the following suggest that some of the appointments to clinical chiefs of service may need to be revisited:

- "It is important for clinical chiefs to represent and work on behalf of their colleagues".
- "If clinical chiefs are paid significantly they just become tools of administration."
- "I do not want a large stipend as that would mean my loyalty is to the hospital, whereas I see my loyalty being to my colleagues."

It is recommended that:

(29) The Vice President Medical Services should ensure that all appointees to a position of clinical chief participate in a formal management training program designed for physician leaders such as the PMI courses.

(30) The Vice President Medical Services should ensure that all clinical chiefs have a contract that includes a job description, accountabilities, expectations, required time commitment and appropriate remuneration.

Medical Advisory Committee (MAC)

The Medical Advisory Committee is not effective in ensuring the quality of medical care at the hospital. It appears to discuss issues repetitively but has difficulty coming to resolution and decision. The MAC does not seem to have any formal mechanism for measuring, monitoring or ensuring the quality of medical care at the hospital. As will be discussed later in this report, The MAC also plays a very passive role related to utilization management.

The MAC seems unwilling to deal with difficult and sensitive issues, especially related to necessary discipline of medical staff. The medical staff bylaws clearly place the responsibility for initiating disciplinary action with the clinical chiefs through the MAC (medical staff bylaws June 29, 1999, page 8, section M3:22, M3:23). A critical example of this failing is the recent issue regarding anaesthetists involvement in the pre-admission clinic. In summary, the Department of Anesthesia withdrew their services from the pre-admission clinic in May 2001 as they considered their earnings from that source to be insufficient. (There has been an ongoing dispute between anesthetists and the province on fees in general.) However, it is obvious that a modern hospital cannot function effectively without a pre-admission clinic (PAC) that includes specialist anesthetists. Withdrawal of services compromises both the quality of care at the hospital and its efficient operation. There was and continues to be an important role for the MAC in dealing with medical who have refused to fulfill their responsibilities to the medical staff of the hospital and to the hospital as a whole. Suspension or removal of privileges and perhaps dismissal from the medical staff of the hospital should be considered as potential disciplinary actions. This situation remains unresolved. Although not the focus of our review, it is likely that a small number of anesthetists have behaved in a manner that should have been remarked upon by the MAC, perhaps resulting in disciplinary action. But the MAC did not act. The current PAC situation is completely unacceptable and requires urgent resolution. To facilitate action by the board in the future, the Board and the MAC should ensure that appointment to the medical staff of the hospital includes clearly articulated expectations for participation in the medical care of patients. These should be structured as performance contracts to be signed at the time of each appointment or reappointment to the medical staff.

Program Management

The most important role of the clinical chiefs in program management is to provide leadership and direction for medical staff participation in managing the effective and efficient use of hospital resources. As is demonstrated, the clinical chiefs have not been effective in identifying and implementing opportunities to improve the clinical efficiency of the Corporation. HCCSJ is the most inefficient of the major Canadian Academic Health Science Centres. The clinical chiefs have not provided the leadership necessary to correct this situation. And management has not insisted on participation. As has been suggested, the success of program management is dependent on strong medical leadership of the programs who are supported by management processes and management information that facilitate their activity. HCCSJ has neither. So that even those program clinical chiefs who have the experience, expertise and desire to fulfil their roles are not provided with the necessary tools to be effective. And, management does not seem willing to be aggressive on insisting on medical staff adherence to processes for improving the efficient use of hospital resources. Success in these efforts will be critical to the future viability of the hospital (and the medical school). The hospital must have sufficient resources to ensure that it keeps up technologically and clinically with the other leading health science centres in Canada. It cannot look only to the Department of Health to provide these resources. It must generate some of these resources through improved efficiency. The major AHSCs used as comparators in this operations review are good examples of hospitals that have, out of necessity followed this route to creating the some of the necessary resources to support their academic (and patient care enterprises). If it is to be successful, HCCSJ must follow their lead.

Joint Conference Committee

The hospital has a Joint Conference Committee. The purpose of the Joint Conference Committee is to provide a liaison mechanism between the Board and the Medical Staff. The Joint Conference Committee is composed of three Trustees, one of whom is the Chairperson, and three members of the Active Medical Staff, one of who is the President of the Medical Staff Association. The CEO, VP, Medical Services and Chair of the MAC attend meetings as ex-officio members.[55] In some organizations, the Joint Conference Committee is expanded to include the full board, the members of the MAC and senior management. There are no regularly scheduled meetings of the Joint Conference Committee; meetings are held at the request of the Chairperson or the President of the Medical Staff. The most recent meeting of the Joint Conference Committee was held in June 2001. The previous meeting was held in April 2000.

Meetings of the committee provide a forum where medical staff leadership can articulate the issues and concerns of the medical staff regarding the governance and management of the hospital directly to members of the board. The meetings also provide an opportunity for board members to articulate the issues and concerns that they may have regarding the participation of physicians in the management, operations and clinical processes of the hospital. It provides an opportunity for hospital leadership to exchange and discuss ideas, opinions and feelings. Less formally, it provides an opportunity for medical staff leadership and board members to get to know each other and can be an effective communications tool. In the absence of conflict between the medical staff and the hospital, annual meetings are adequate. However, t is important to meet so that this mechanism remains available for the medical staff and the board to be able to communicate and discuss their issues and concerns.

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[55] Health Care Corporation of St. John's. Medical Staff By-Laws. Joint Conference Committee Terms of Reference.

3.0 Financial Review

The financial review focuses on the hospital's current financial position and the financial impacts that appear to have led to the current situation. The primary timeframe is the period 1999/00 through 2001/02. However, longer periods have been used where the additional timeframe helps the historical perspective.

In this review, hospital operating results are stated according to provincial reporting rules.

It is not uncommon to find that there are significant differences between financial results reported to the provincial government (Department of Health & Community Services in Newfoundland and Labrador) and the financial results reported in the audited financial statements. The audited financial statements are prepared using generally accepted accounting principles to reflect the full operating results of the hospital. The provincial reporting isolates operating results for hospital operations that are considered shareable expenses. That is, the provincial reporting excludes certain expenses since they do not qualify for funding. The key differences between the audited financial statements and the government reporting are highlighted below.

Government reporting excludes:

- Depreciation, since building and equipment acquisition are funded separately. Amortization of deferred capital grants, similarly, is reported on the Audited Financial Statements only.
- Accrued vacation expense
- Accrued severance expense
- Long term debt interest

Principle payments on long term debt are considered shareable, where they would not be considered an expense on the audited financial statements.

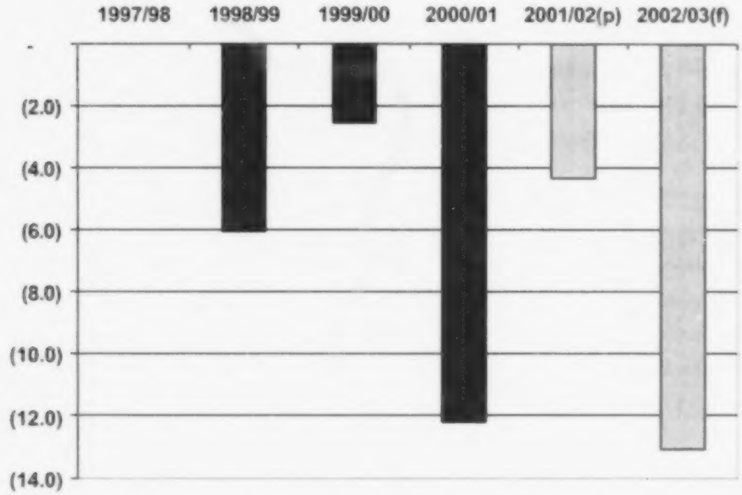
In this review, hospital operating results are stated according to provincial reporting rules.

3.1 Change in Financial Position

Operating Surpluses (Deficits)

The Health Care Corporation of St. John's last had a balanced operating result in fiscal 1997/98. In 2000/01 the operating deficit rose to $12.2 million (3.4% of revenue). The history is shown in Exhibit 3.1.

Exhibit 3.1
HCCSJ Operating Surplus (Deficit) 1997/98 – 2000/01 ($Millions)



HCCSJ is projecting operating deficits of about $4.1 million for 2001/02 and about $13.0 million for 2002/03.

At the time this report was written (January 2002), HCCSJ was projecting a reduced deficit for fiscal 2001/02 of $4.1 million, and the forecast for 2002/03 was an operating deficit of about $13.0 million. Such operating losses are not conducive to the long term financial viability of the organization.

Changes in Working Capital

Working capital is calculated by netting current assets against current liabilities. A positive answer is good. Working capital reporting requirements for hospitals in Newfoundland and Labrador to the Department of Health and Community Services do not include accrued vacation and accrued severance as one would normally expect under GAAP. This presentation does include these items.

The Health Care Corporation of St. John's recorded a working capital deficit of $16,190,000 for fiscal 1995/96. As can be seen in Exhibit 3.2, after several years of improvement (partially enabled by specific funding of $10,215,000 in 1998/99 from the DHCS to offset prior operating deficits) the working capital position worsened substantially in 2000/01 to a deficit of $28,258,000. The working capital situation is expected to worsen again in 2001/02.

Exhibit 3.2
HCCSJ Closing Position Working Capital
Operating Fund 1995/96 through 2000/01 ($Millions)

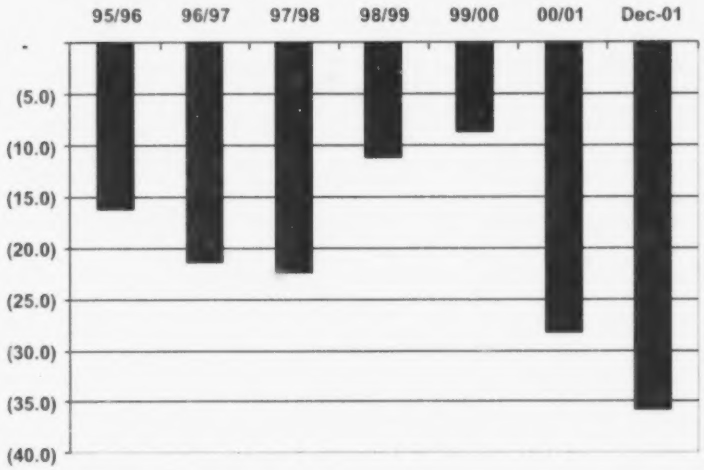


Exhibit 3.3 shows the impact by major category for the period 1990/00 through 2000/01. As can be seen there was a combination of asset decreases and liability increases. The fiscal 2000/01 operating deficit was a significant contributor to the decrease in working capital. The Board maintains its own funds to provide additional support to the Hospital. The Board Fund is supported by donations, parking revenues and other revenues separate from the hospital operations. The Board Fund is maintaining a positive working funds position.

The Hospital maintains a bank line of credit to assist it to meet cash flow requirements. This line is currently being increased to $30 million because of the continued drain of operating losses.

Exhibit 3.3
HCCSJ Change in Working Capital 1999/00 through 2000/01 ($Millions)

	1999/00	2000/01	Change
Current assets			
Cash	$ 9,476	$ 3,427	(6,049)
Accounts receivable	25,556	21,102	(4,454)
Inventory	3,261	4,444	1,183
Prepaid expenses	677	683	6
Other	-	-	
Total current assets	$ 38,970	$ 29,656	(9.314)
Current liabilities			
Accounts payable and accrued liabilities	$ 27,432	$ 32,614	5,182
Deferred contributions			0
- operating	5,840	2,569	(3,271)
- capital	14,243	5,827	(8,416)
Due to board and hostel	124	16,904	16,780
Total current liabilities	47,639	57,914	10,275
Working Capital Surplus (Deficit)	(8,669)	(28,258)	(19,589)

The sources of the change in working capital from 1999/00 to 2000/01 are shown in Exhibit 3.4.

Exhibit 3.4
HCCSJ Change in Working Capital 1999/00 through 2000/01 Second View ($Millions)

1999/00 Year End Working Capital Deficit	$ (8,669)
2000/01 Operating Deficit	$ (12,171)
Excess of Capital Spending over Funding/Financing	$ (7,204)
Other	$ (214)
2000/01 Year End Working Capital Deficit	$ (28,258)

In the absence of funding specifically targeted to reduce the accumulated deficit, the hospital must begin to generate an annual operating surplus.

Projected Position at end of 2001/02

HCCSJ is projecting a $4.1 million operating deficit in fiscal 2001/02. This is about $4.6 million less than the original budget for 2001/02. The revenue and expense projections are shown in Exhibit 3.5.

Exhibit 3.5
HCCSJ Actual and Projected Revenue/Expense 2000/01 through 2002/03 ($Millions)

	2000/2001 Actual	2001/2002 Projection	2002/2003 Forecast
Provincial Plan	$ 313,102,630	$ 345,008,122	$ 346,662,381
Other Income	$ 43,328,199	$ 42,237,604	$ 42,908,333
Total Revenue	$ 356,430,829	$ 387,245,726	$ 389,570,714
Total Compensation	$ 273,801,490	$ 290,139,286	$ 291,127,158
Total Supplies	$ 94,800,711	$ 101,203,198	$ 111,481,197
Total Expenses	$ 368,602,201	$ 391,342,484	$ 402,608,355
Surplus (Deficit)	$ (12,171,372)	$ (4,096,758)	$ (13,037,641)

The working capital deficit has increased to $35,746,000 at December 2001.

The expected operating deficit will add to the working capital deficit. The working capital deficit has continued to increase, reaching $35,746,000 at December, 2001.

3.2 *Financial Performance*

3.2.1 Revenues

Revenues by Category

Total revenue increased by 20.8% from 1997/98 to 2000/01. The change by category is shown in Exhibit 3.6 through Exhibit 3.9. Results are shown from 1997/98 since that is the last year that HCCSJ recorded a balanced operating result. Exhibit 3.6 shows a high level summary of changes in revenues over this period.

Exhibit 3.6
HCCSJ Revenues 1997/98 through 2000/01

	1997/98	1998/99	1999/00	2000/01	% Change
Total Outpatient Revenue	$ 4,813,606	$ 5,089,351	$ 5,841,722	$ 6,016,977	25.0%
Total Inpatient Revenue	$ 11,226,356	$ 10,729,020	$ 11,251,395	$ 11,248,625	0.2%
Total Other Income	$ 16,261,665	$ 17,505,296	$ 20,082,025	$ 26,062,597	60.3%
Provincial Plan Revenue	$ 262,351,153	$ 269,749,344	$ 297,904,884	$ 313,102,630	19.3%
Total Revenue	$ 294,652,780	$ 303,073,011	$ 335,080,026	$ 356,430,829	21.0%

The outpatient revenues schedule shows significant increase in non-resident income in particular as Newfoundland & Labrador has become an increasingly popular tourist destination. Workers Compensation has trailed the other categories despite HCCSJ securing some additional outpatient rehab contracts in 1999/00.

Exhibit 3.7
HCCSJ Outpatient Revenues by Category 1997/98 through 2000/01

Outpatient Revenue	1997/98	1998/99	1999/00	2000/01	% Change
Outpatient Federal Government	$ 112,958	$ 111,335	$ 127,235	$ 155,227	37.4%
Workers Compensation	$ 3,026,341	$ 3,066,601	$ 3,414,988	$ 3,390,091	12.0%
Non Residents of Province	$ 370,166	$ 424,851	$ 690,929	$ 727,788	96.6%
Non Residents of Canada	$ 287,505	$ 314,877	$ 515,229	$ 533,571	85.6%
Uninsured Residents of Province	$ -	$ (26,364)	$ 449	$ 199	
Other Payment Sources	$ 1,016,636	$ 1,198,051	$ 1,092,891	$ 1,210,101	19.0%
Total Outpatient Revenue	$ 4,813,606	$ 5,089,351	$ 5,841,722	$ 6,016,977	25.0%

Inpatient revenues overall have remained relatively unchanged. However, within the group the following have been noted:

- **Workers Compensation** inpatient revenue has declined, although there are no clear reasons other than fewer serious workplace accidents to explain it.
- **Other Provinces** inpatient revenue is down slightly, but Interprovincial rates have not increased over these years.
- **Saint-Pierre et Miquelon** – The Hospital has a contract to provide hospital services to residents of Saint-Pierre et Miquelon. Non-resident rates are charged. This arrangement has provided significant and increasing revenues for HCCSJ.
- **Differential Revenue** for preferred accommodation is reported under the Other Payment category and represents about half of the revenue reported in that category. Revenue in the Other Payment category is down significantly over the period.

Exhibit 3.8
HCCSJ Inpatient Revenues by Category 1997/98 through 2000/01

Inpatient Revenue	1997/98	1998/99	1999/00	2000/01	% Change
Federal Government	$ 131,798	$ 261,082	$ 119,849	$ 210,712	59.9%
Dept of Veterans Affairs	$ 3,173,318	$ 3,280,886	$ 3,792,172	$ 4,019,189	26.7%
Workers Compensation	$ 1,221,483	$ 961,170	$ 1,023,355	$ 581,394	-52.4%
Other Provinces	$ 1,373,841	$ 1,279,391	$ 944,728	$ 1,282,746	-6.6%
Saint-Pierre et Miquelon	$ 2,242,116	$ 2,314,731	$ 2,883,318	$ 2,963,654	32.2%
Other Payment	$ 3,173,728	$ 3,148,267	$ 2,713,035	$ 2,341,481	-26.2%
Uninsured Residents of Province	$ -	$ (3,155)	$ (5,062)	$ (552)	
Provision for Doubtful Accounts	$ (89,928)	$ (513,353)	$ (220,000)	$ (150,000)	66.8%
Total Inpatient Revenue	$ 11,226,356	$ 10,729,020	$ 11,251,395	$ 11,248,625	0.2%

The Other Revenues category includes revenues from a wide range of activities. MCP grants, WCC compensation, and Tuition Fees are discussed elsewhere in this chapter, as these revenues match specific expenses. The following comments relate to Other Revenues:

- **Services External** revenues have not changed significantly over the period. These are recoveries for services provided to external entities such as Newfoundland Cancer Treatment Research Foundation or Memorial University. Services might include Finance, Human Resource services, or Housekeeping.
- **Dietary Recoveries** represent Cafeteria revenue. The Cafeteria operations historically have operated at a deficit.
- **Compensation Shared** represents primarily the recovery from Memorial University for cost of secretarial support for Full Time Physicians that are on Hospital salary. It also includes any recoveries for HCCSJ staff on secondment to DHCS. The increase is a combination of increasing salary rates and increased number of secretaries to support the increasing number of salaried physicians.
- **Material External** are recoveries for supplies sold to other organizations. Recovery is based on a cost plus handling fee arrangement, so the Hospital is not out of pocket.
- **Other Income** includes a range of items including fees for the release of medical information, rental of the Janeway apartments for various clinics, discounts, staff development training to outside entities.

Exhibit 3.9
HCCSJ Other Revenues by Category 1997/98 through 2000/01

Other Income	1997/98	1998/99	1999/00	2000/01	% Change
MCP Grants	$ 4,248,862	$ 4,287,303	$ 6,255,822	$ 9,820,725	131.1%
Services External	$ 1,603,455	$ 1,644,006	$ 1,949,069	$ 1,591,116	-0.8%
Dietary Recoveries	$ 2,623,619	$ 2,539,178	$ 2,524,628	$ 2,723,579	3.8%
Tuition Fees	$ 883,173	$ 1,142,717	$ 1,508,969	$ 1,761,796	99.5%
Compensation WCC	$ 1,831,536	$ 2,327,823	$ 2,762,632	$ 2,872,948	56.9%
Compensation Shared	$ 2,506,288	$ 2,888,541	$ 2,927,689	$ 3,287,896	31.2%
Material External	$ 1,501,663	$ 1,385,439	$ 1,155,024	$ 1,132,192	-24.6%
Other Income	$ 1,063,069	$ 1,290,289	$ 998,192	$ 2,872,345	170.2%
Total Other Income	$ 16,261,665	$ 17,505,296	$ 20,082,025	$ 26,062,597	60.3%

Revenue Generation & Opportunities to Increase Revenues

Hospitals have limited opportunities to generate supplementary revenues. Even in Ontario, where the provincial government has actively encouraged hospitals to generate other revenues since 1974, hospitals have not been able to generate significant new revenue streams. For example, assuming a margin of 15%, to generate net income of $1.0 million the hospital would have to achieve recurring revenue of approximately $7.0 million. The primary sources of supplementary revenues to hospitals are for preferred accommodation, parking, and retail pharmacy. Some hospitals have built shopping mall areas within their hospitals, some have provided housekeeping or information systems services, and there are many smaller initiatives that can generate small returns. In general, hospitals do well to keep focused on their core business. Having said that, there are some areas to be considered.

Differential Revenue

HCCSJ experienced a decline in differential revenue in 2000/01, although there is a bit of a recovery anticipated in 2001/02. Differential Revenue is summarized in Exhibit 3.10. All hospitals lose some preferred accommodation capacity during construction periods. That helps to explain the 2000/01 dip in differential revenues. The current configuration provides 161 private beds and 44 semi-private beds, representing a reduction in the total semi-private beds available with facilities consolidation. Differential revenue is not charged for paediatric patients at the Janeway.

Exhibit 3.10
HCCSJ Differential Revenues by Category 1999/00 through 2001/02

	1999/00	2000/01	2001/02(p)	% Change
Private	$ 790,800	$ 594,975	$ 814,114	2.9%
Semi-Private	$ 966,075	$ 771,980	$ 709,594	-26.5%
Total	$ 1,756,875	$ 1,366,955	$ 1,523,709	-13.3%

An increase of room differential rates to $100 per day for private and $75 per day for semi-private accommodation could generate an additional $500,000 revenue for the hospital.

The rates for preferred accommodation are set by the DHCS. The current rates are $75 per day for private and $55 per day for semi-private accommodation. By contrast, current rates at teaching hospitals in other provinces are as much as $180 per day for private and $160 per day for semi-private accommodation. In some respects, these rates may be too high: they often exceed the amounts that insurance companies will pay. The Department last increased rates in 1996/97. An increase of these rates to $100 per day for private and $75 per day for semi-private accommodation could generate an additional $500,000 revenue for the hospital. Also, it should be noted that differential revenue can be adversely impacted as hospitals reduce their bed complements to achieve better clinical efficiencies. Higher occupancy rates make it more difficult to place patients into the highest reimbursable accommodation.

It is recommended that:

(31) The Department of Health & Community Services should give serious consideration to increasing approved preferred accommodation rates for HCCSJ to $100 per day for private and $75 per day for Semi-Private accommodation.

Dietary Recoveries

The Cafeteria operations historically have operated at a deficit. The projected deficit for 2001/02 is $380,000. This deficit is less than the year prior, as operating savings have been achieved. We understand that the Hospital is working on a plan to eliminate this operating deficit by reducing the hours of operation for the cafeterias. Whether it is by reducing hours, increasing prices, reducing the number of sites, reducing costs, or creative marketing, the minimum acceptable target should be a break even position.

It is recommended that:

(32) The Director of Food Services should take all necessary steps to eliminate Cafeteria operating deficits.

Saint-Pierre et Miquelon

The Hospital has a contract to provide hospital services to residents of Saint-Pierre et Miquelon. Rates are based on non-resident rates. Although this arrangement has provided significant and increasing revenues for HCCSJ in the past, in 2001/02 inpatient revenue is projected to decrease by $858,000 to $2,105,889. The arrangement with Saint-Pierre et Miquelon is the best possible revenue generation approach as it enables the hospital to generate additional revenues by doing what it does best. As long as the business can be retained at favourable rates, HCCSJ may have to work harder to maintain and strengthen the relationship to fend off competition from alternative providers in New Brunswick, Nova Scotia and France.

Retail Pharmacy

HCCSJ operates an outpatient pharmacy that generates some revenue for the Hospital. Many hospitals with sufficient traffic have moved to either providing a full retail pharmacy on site, or contracting with a private sector pharmacy for an on-site outlet.

It is recommended that:

(33) The VP, Administrative Services should evaluate the alternative of contracting with a private sector pharmacy to operate retail pharmacy outlets at its facilities.

3.2.2 Operating Costs

Supply Costs

HCCSJ appears to have maintained reasonable control over supplies costs during the period 1997/98 through 2000/01 as shown in Exhibit 3.11. In fact, the percentage increase in Medical/Surgical Supplies and Drugs has been less than the overall increase in revenue over the period. Although performance appears to be good, given the fiscal position of the corporation, it would be prudent to investigate opportunities to reduce supply costs further. An evaluation of purchasing practices and prices might identify further savings opportunities.

It is recommended that:

(34) The VP, Administrative Services should invite a national group purchasing organization to conduct a product price comparison to determine whether further savings can be achieved.

Exhibit 3.11
HCCSJ Supply Costs by Category 1997/98 through 2000/01

	1997/98	1998/99	1999/00	2000/01	% Change
Medical/Surgical Supplies	$ 19,418,995	$ 19,790,152	$ 21,570,541	$ 23,020,341	18.55%
Drugs and Medical Gases	$ 10,613,595	$ 11,199,624	$ 11,435,331	$ 12,127,465	14.26%
Other Supplies	$ 42,912,660	$ 45,990,138	$ 49,594,893	$ 52,096,727	21.40%
Total Supplies	$ 72,945,250	$ 76,979,914	$ 82,600,765	$ 87,244,533	19.60%

Labour Costs

Labour costs represent about 75% of the Hospital's total operating expenses. Exhibit 3.12 shows labour costs over the period 1997/98 through 2000/01. The overall increase has been 24.8% which exceeds the 20.8% increase in revenue over the same period. The exhibit shows labour costs organized into two groups. The second group shows specific categories of labour cost that have been separated from the totals shown in the first group. Except for severance, this second group's funding can be matched to the expense. Some observations about labour cost changes over this period:

- Purchased services increased from 1.3% to 1.6% of total salaries and wages. Purchased services are monies paid to an external agency to provide labour. Typically these costs include both salary and benefit cost components. At HCCSJ this includes security, dietary management, Shared services contracted from Memorial University of Newfoundland, and Housekeeping management.

- The cost of third party benefit contributions remained stable at 18.4% of salaries and wages.
- The amounts shown for vacation accruals represent the net increase in vacation accruals from the previous year. Vacation accruals are not a recognized expense for funding by the DHCS. This difference represents part of the difference between the operating deficit reported in the Audited Financial Statements and the operating deficit as calculated for DHCS. Excluding this item, the change in total labour cost over the period would have been 24.2%. Vacation accruals have been increasing as more staff move past the 10 year and 25 year milestones
- Labour costs in the second group of staff increased much more (34.1%) than the first category (23.8%). This second group includes salaried physicians whose compensation, as a group increased by 120% over this period.
- The impacts of changes in labour rates and earned hours are discussed elsewhere in this chapter.

Exhibit 3.12
HCCSJ Labour Costs 1997/98 through 2000/01

	1997/98	1998/99	1999/00	2000/01	% Change
Salaries and Wages	$ 167,006,216	$ 173,449,378	$ 189,368,486	$ 204,902,916	22.7%
Purchased Services	$ 2,573,468	$ 3,323,364	$ 3,934,307	$ 4,038,044	56.9%
Benefit Contributions- Third Party	$ 30,777,579	$ 31,634,026	$ 34,823,815	$ 37,981,156	23.4%
Vacation Accruals		$ 235,000	$ 959,000	$ 1,165,000	
Subtotal	$ 200,357,263	$ 208,641,768	$ 229,085,608	$ 248,087,116	23.8%
Whscc Salaries	$ 1,743,701	$ 2,238,223	$ 2,427,812	$ 2,494,388	43.1%
Severance	$ 711,088	$ 1,077,259	$ 1,006,356	$ 1,149,266	61.6%
Salaried Physicians	$ 5,064,276	$ 5,420,942	$ 7,415,822	$ 11,155,484	120.3%
Centre for Nursing Studies	$ 3,465,031	$ 3,119,384	$ 3,723,616	$ 4,153,549	19.9%
Medical School	$ 9,056,802	$ 8,722,951	$ 8,902,697	$ 7,926,687	-12.5%
Subtotal	$ 20,040,898	$ 20,578,759	$ 23,476,303	$ 26,879,374	34.1%
Total Labour Cost	$ 220,398,161	$ 229,220,527	$ 252,561,911	$ 274,966,490	24.8%

Other Costs

Other costs that require highlighting are shown in Exhibit 3.13.

Some equipment is acquired through leasing arrangements. Over the period leasing costs have changed little.

The redevelopment of the Janeway was financed by the establishment of a sinking fund debenture that matures June 15, 2040. Principal, interest, and mandatory sinking fund payments are guaranteed by the Government of Newfoundland and Labrador. The ongoing annual expense to the Hospital is $9,717,500. Payments began part way through 2000/01.

The vacation accrual adjustment represents removal of the change in accrual from the expenses for DHCS reporting.

The Capital Financing and Accounting amount represents net adjustments, either to increase (decrease) operating expense for DHCS reporting.

Exhibit 3.13
HCCSJ Other Costs and Adjustments 1997/98 through 2000/01

	1997/98	1998/99	1999/00	2000/01
Site Redevelopment Costs	-	-	-	$ 6,816,257
Leases	$ 1,309,494	$ 1,209,332	$ 1,449,677	$ 1,317,599
Total Other Costs	$ 1,309,494	$ 1,209,332	$ 1,449,677	$ 8,133,856
Adjustment: vacation accrual	-	$ (235,000)	$ (959,000)	$ (1,165,000)
Capital Financing & Accounting	-	$ 1,923,000	$ 2,002,000	$ (577,678)
Total Adjustments	$ -	$ 1,688,000	$ 1,043,000	$ (1,742,678)

The agreement on the financing of the Janeway was that the hospital would achieve operational savings through improved facilities, and would apply the savings to cover the cost of the financing. The Hospital has documented these savings over the years, and the total amounts to over $15.5 million as shown in Exhibit 3.14. These reductions are masked by other increases over this period such as labour cost increases related to government negotiated collective agreements. This issue is explored further in the rate variance section.

Exhibit 3.14
HCCSJ Site Redevelopment Savings 1996/97 through 2001/02

Program	Budget Removed 1996/97 & 1997/98	Budget Removed 2000/2001	Budget Removed 2001/2002	Total To Date
Admitting		$ 271,700	$ 166,809	$ 438,509
Health Records	$ 38,410	$ -	$ 50,246	$ 88,656
Pharmacy		$ 39,494	$ 27,078	$ 66,572
Executive Offices	$ 1,139,532	$ 178,647	$ 54,196	$ 1,372,375
Planning Transfer		$ 80,772	$ 743,995	$ 824,767
Finance	$ 350,232	$ 29,303	$ 58,765	$ 438,300
Budgeting		$ 49,000	$ -	$ 49,000
Human Resources		$ -	$ 85,680	$ 85,680
HRDP		$ 43,311	$ 95,800	$ 139,111
Information Management		$ 300,000	$ -	$ 300,000
Materiels Management	$ 815,927	$ 268,937	$ 370,223	$ 1,455,087
Housekeeping	$ 1,564,550	$ 489,401	$ 348,585	$ 2,402,536
Central Laundry		$ -	$ 485,000	$ 485,000
Facilities Management	$ 292,383	$ 519,701	$ 1,161,641	$ 1,973,725
Central Kitchen/Cafeterias	$ 1,218,090	$ 334,064	$ 593,900	$ 2,146,054
Child Health		$ -	$ 601,568	$ 601,568
Critical Care		$ 66,612	$ 15,202	$ 81,814
Perioperative		$ 130,677	$ 55,332	$ 186,009
Womens' Health		$ 10,162	$ -	$ 10,162
Laboratory Services	$ 700,000	$ 69,342	$ 190,758	$ 960,100
Diagnostic Imaging		$ 24,882	$ 305,556	$ 330,438
Centre for Nursing Studies		$ 89,502	$ 191,462	$ 280,964
Medicine		$ 293,130	$ 222,777	$ 515,907
Surgery		$ (95,381)	$ 3,649	$ (91,732)
Management Engineering		$ -	$ 32,103	$ 32,103
Clinical Services	$ 520,100			$ 520,100
Total Savings Achieved	**$6,639,224**	**$3,193,256**	**$5,860,325**	**$15,692,805**

Total Costs The Hospital's revenues and expenses are recapped in Exhibit 3.15, showing the reconciliation with the Hospital's Audited Financial Statements and with the DHCS Surplus (Deficit).

Exhibit 3.15
HCCSJ Revenue/Expense Recap 1997/98 through 2000/01

	1997/98	1998/99	1999/00	2000/01
Total Revenue	$ 294,652,780	$ 303,073,011	$ 335,080,026	$ 356,430,829
Total Labour Cost	$ 220,398,161	$ 229,220,527	$ 252,561,911	$ 274,966,490
Total Supplies	$ 72,945,250	$ 76,979,914	$ 82,600,765	$ 87,244,533
Total Other Costs	$ 1,309,494	$ 1,209,332	$ 1,449,677	$ 8,133,856
Net Surplus(Deficit) AFS	$ (125)	$ (4,336,762)	$ (1,532,327)	$ (13,914,050)
Total Adjustments	$ -	$ 1,688,000	$ 1,043,000	$ (1,742,678)
Net Surplus(Deficit) DHCS	$ (125)	$ (6,024,762)	$ (2,575,327)	$ (12,171,372)

3.2.3 *Factors Leading to Current Situation: Variance Analyses*

Volume Variance

The trends in hospital service volumes are summarized in Exhibit 3.16. This was a period marked by site closures, construction, recruitment challenges and labour disputes. Still there was some increase in inpatient acute weighted cases. This was offset partially by a decrease in same day surgery weighted cases. Ambulatory services volumes tell a mixed story with emergency visits down slightly (5.7%), outpatient clinic visits down 0.6%, and endoscopy procedures and dialysis treatments up. Overall, these service volumes alone do not support an expectation of significant increase in operating cost.

Exhibit 3.16
Service Volumes 1999/00 – 2000/01

	1999/00	2000/01	Change
Admissions	31,367	28,774	-8.3%
Births	2,304	2,231	-3.2%
Inpatient Weighted Cases	44,975	47,199	4.9%
SDS Weighted Cases	5,613	4,166	-25.8%
Patient Days	353,192	344,229	-2.5%
Medical Surgical Daycare	29,763	29,671	-0.3%
Endoscopy Procedures	9,428	10,364	9.9%
Dialysis Treatments	20,485	22,179	8.3%
Outpatient Clinic Visits	305,979	304,145	-0.6%
Emergency Visits	126,153	118,909	-5.7%

Hours Variance

Increased hours contributed to the hospital's increased operating deficit in 2000/01. Exhibit 3.17 shows the change in earned hours by bargaining group category. Interns and Residents and Salaried Physicians have been excluded from this analysis since they have been previously covered. Overall earned hours increased by 2.57% with increases in all groups except Lab & X-ray Technologists. Overall this increase of 271,944 hours represents 139 FTE at 1950 hours/FTE.

Exhibit 3.17
Earned Hours by Bargaining Group

Category	1999/00	2000/01	% Change
Allied Health	668,852	712,119	6.47%
Management	483,853	493,682	2.03%
Service Workers	5,059,810	5,200,952	2.79%
Lab & X-ray Techs	736,161	706,175	-4.07%
Non Bargaining	118,149	131,409	11.22%
Nurses	3,508,238	3,602,670	2.69%
Total	10,575,063	10,847,007	2.57%

There were two significant labour changes in 1999/00 that affected nursing hours. In spring, 1999, nurses' concerns about workload were brought to the fore by a work to rule action. As a result of negotiations with the Provincial Government, HCCSJ was directed to add 62.5 FTE support staff positions and 50 FTE RN staff. These changes would be partially reflected (~75%) in the 1999/00 total hours. Later in the year, after a strike action, 307 casual nursing staff were given full time positions with about 50% of the impact on hours felt in 1999/00. The annualization of the impact of these changes on hours in 2000/01 would cause some of the increase in hours from 1999/00.

Rate Variance

The overall increase in salaries from 1999/00 to 2000/01 was 8.08%. Hours contributed 2.57% of that increase and salary rates have contributed 5.5% of that difference. Exhibit 3.18 shows the change in average hourly rate by bargaining group from March, 1999 to March, 2001.

Exhibit 3.18
Average Hourly Rates by Bargaining Group

Category	March 1999	March 2000	March 2001	% Increase
Allied Health	20.18	21.02	23.18	14.87%
Management	25.96	27.16	29.01	11.75%
Service Workers	12.94	13.18	13.69	5.80%
Lab & X-ray Techs	18.91	19.22	19.75	4.44%
Non Bargaining	14.75	15.05	15.50	5.08%
Nurses	20.21	21.03	23.20	14.79%
Interns & Residents	15.44	15.84	16.23	5.12%
Salaried Physicians	51.56	54.11	61.75	19.76%

The average hourly rate is a snapshot average of base rates taken at each March. As can be seen from the table, the rates for nursing and allied health have increased close to 15% over that two year period.

Another factor that has pushed up rates in the last two or three years in particular is position reclassification. Most of the broad occupational groups have gone for reclassification and have successfully had their positions revised.

It should be noted that position reclassification and negotiation of bargaining unit rates are the responsibility of the Provincial Government, not the Hospital.

Other Factors

Some revenue and expense items where revenue and expense are easily matched or readily separated categories not directly related to provision of hospital services are discussed here.

Medical Care Plan Revenues

Medical Care Plan Revenue is received for payment to salaried physicians through the hospital. This revenue does not cover 100% of the salary cost as shown in Exhibit 3.19. The difference is due to salaried physician costs for medical administration that is funded through the hospital's base funding. It appears that MCP Revenue has kept pace with the significant increase in salaried physician cost since 1997/98.

Exhibit 3.19
HCCSJ Medical Care Plan Revenues

	1997/98	1998/99	1999/00	2000/01
Medical Care Plan Revenue	$ 4,248,862	$ 4,287,303	$ 6,255,822	$ 9,820,725
Salaries & Wages - Salaried Physicians	$ 4,628,564	$ 4,998,373	$ 6,257,883	$ 9,996,712
Employee Benefit Contributions - Third Pa	$ 435,712	$ 422,569	$ 599,915	$ 564,120
Salaries & Benefits - Salaried Physicians	$ 5,064,276	$ 5,420,942	$ 6,857,798	$ 10,560,832
Net Difference	$ (815,414)	$ (1,133,639)	$ (601,976)	$ (740,107)

WHSCC

Workplace Health Safety & Compensation Commission (WHSCC) Recoveries relate to reimbursement for salaries and benefits paid to staff recovering from a workplace injury who are on a modified work program. The history for this category is shown in Exhibit 3.20.

Exhibit 3.20
HCCSJ WHSCC Recoveries

	1997/98	1998/99	1999/00	2000/01
Whscc Recoveries	$ 1,831,536	$ 2,327,823	$ 2,762,632	$ 2,872,948
Whscc Salaries & Benefits	$ 1,831,536	$ 2,327,823	$ 2,762,632	$ 2,872,948

Centre for Nursing Studies

The ***Centre for Nursing Studies*** charges tuition and receives supplementary funding from the provincial government, although the amount of funding for the Centre for Nursing Studies is not specifically identified in the hospital's approved provincial plan revenue. Detailed accounting of non-labour expense was not prepared for this review. However, non-labour expenses are small relative to salary expense. As can be seen in Exhibit 3.21, the Centre for Nursing Studies has not contributed to the increasing operating deficit of the hospital.

Exhibit 3.21
Centre for Nursing Studies

	1997/98	1998/99	1999/00	2000/01
Tuition Fees	$ 883,173	$ 1,142,717	$ 1,508,969	$ 1,761,796
From Provincial Plan Revenue	$ 2,581,858	$ 1,976,667	$ 2,214,647	$ 2,391,753
Salaries & Wages - Centre for Nurs	$ 2,929,560	$ 2,640,220	$ 3,171,002	$ 3,530,750
Employee Benefit Contributions - T	$ 535,471	$ 479,164	$ 552,614	$ 622,799
Salaries & Benefits	$ 3,465,031	$ 3,119,384	$ 3,723,616	$ 4,153,549
Percentage covered by Tuition	25.5%	36.6%	40.5%	42.4%

Interns & Residents

The Hospital receives funding earmarked for salaries, benefits and associated costs for Memorial University Medical School ***interns and residents*** working at the Hospital. Funding is scheduled separately (currently $9.4 million) for this group. In recent years this category has operated in a surplus position. Exhibit 3.22 shows the salary expense history. Non-labour costs are negligible.

Exhibit 3.22
Interns & Residents

	1997/98	1998/99	1999/00	2000/01
Salaries & Wages	$ 7,979,865	$ 7,680,306	$ 7,838,266	$ 6,980,325
Employee Benefits	$ 1,076,937	$ 1,042,645	$ 1,064,431	$ 946,362
Salaries & Benefits	$ 9,056,802	$ 8,722,951	$ 8,902,697	$ 7,926,687

Other factors contributing to the current situation including declining revenues for patients from Saint Pierre et Miquelon and unfunded nursing costs.

Declining revenues from Saint-Pierre et Miquelon

The Hospital has a contract to provide hospital inpatient services to residents of Saint-Pierre et Miquelon. Although this arrangement has provided significant and increasing revenues for HCCSJ, it appears that some of that business is starting to go elsewhere. In 2001/02 this inpatient revenue is projected to decrease by $858,000 to $2,105,889.

Unfunded costs of nursing overtime, call-back & relief

Although group reclassification is funded, the funding formula has not kept pace with actual costs for nursing. The funding formula provides an allowance of 15% for overtime, callback, relief, and other additional salary costs, while the Hospital's actual cost is 23%. As a result, the funding for the recent round of group reclassifications did not cover the full cost of the change.

3.2.5 *Analysis of Cost per Weighted Case*

Compare Adult Cost/Wtd Case with Peer Hospitals

The development of the weighted case provided a measure for acute inpatient workload. Acute inpatient activity is typically the largest single category of a hospital's business. Other categories, such as ambulatory care, and long term care, are much smaller by comparison. For example, using the CIHI/HayGroup Benchmarking Survey Methodology, in 2000/01 direct inpatient acute care activity accounted for 49% of HCCSJ operating costs, direct ambulatory care activity accounted for 24%, and direct long term care accounted for 3.4%. Administrative and Support and Marketed Services functions accounted for the remaining 23.6%.

The hospital's overall productivity has declined from 1999/00 to 2000/01.

Direct inpatient acute care cost per weighed case provides a comparative measure that takes into account both clinical efficiency, and operational efficiency. Comparative cost per weighted case data are available for 1999/00 and for 2000/01. To ensure fairer comparisons, the HCCSJ data have been separated into adult and paediatric components. Paediatric care is much more costly than adult care, and a large paediatric program can make a hospital's results seem excessively high. As an example, the adult, paediatric, and combined direct cost per weighted case for HCCSJ are shown in Exhibit 3.23. It is interesting to note that using this measure, the hospital's productivity declined from 1999/00 to 2000/01.

Exhibit 3.23
HCCSJ Direct Cost per Weighted Case

	1999/00	2000/01
HCCSJ - Adult	$ 2,717	$ 2,705
HCCSJ - Paediatric	$ 4,432	$ 5,168
HCCSJ - Combined	$ 3,006	$ 3,172

Adult and paediatric programs will be considered separately in these comparisons. It is important to keep in mind that although paediatric costs have been removed for HCCSJ, this was not possible for all of the peers. Only Ottawa, McGill, Calgary, Sunnybrook, and Vancouver are purely adult care.

The first set of comparisons looks at adult inpatient care. Exhibit 3.24 shows the direct cost per weighted case for HCCSJ Adult and the peer group. The direct cost per weighted case includes the inpatient portion of nursing, therapies, laboratory, diagnostic imaging, other dagnostic laboratories, and food services. To provide better comparability, these costs do ***not*** include Medical

Staff Costs and Equipment Acquisition Costs (depreciation or lease).

Exhibit 3.24
Direct Cost per Weighted Case

Hospital	1999/00	2000/01
Hamilton HSC	$ 2,363	$ 1,940
St. Boniface	$ 2,382	$ 2,315
Ottawa Hospital	$ 2,781	$ 2,439
Top Quartile	**$ 2,453**	**$ 2,465**
Kingston General	$ 2,468	$ 2,491
London HSC	$ 2,626	$ 2,509
McGill Adult Sites	$ 2,438	$ 2,531
Winnipeg HSC	$ 2,593	$ 2,564
Calgary Foothills	$ 2,745	$ 2,566
Sunnybrook & Women's	$ 2,691	$ 2,600
HCCSJ Adult	**$ 2,717**	**$ 2,705**
Edmonton Academic	$ 2,936	$ 2,928
Vancouver HHSC	$ 2,716	$ 3,036

HCCSJ Adult is in the bottom quartile with a cost per weighted case 10% higher than the top quartile, or $240.00 per weighted case. Based on 43,349 adult weighted case this equals $10.4 million.

Compare Paediatric Cost/Wtd Case with Peer Hospitals

As shown in Exhibit 3.23 the HCCSJ paediatric cost per weighted case is much higher than the adult cost per weighted case. The CIHI/Hay Benchmarking Survey provides access to 2 paediatric peers. The results for paediatric direct cost per weighted case are shown in Exhibit 3.31. The pattern here is similar to the adult results: diagnostic areas are comparable or better than the peers, but nursing is much higher.

Exhibit 3.25
Paediatric Direct Cost per Weighted Case

	MCGILL - PAEDIATRIC	CALGARY ALBERTA CHILDREN'S	HCCSJ PAEDIATRIC
Total Direct	$2,985	$3,552	$5,168
Nursing	$2,045	$2,514	$4,131
Therapies	$480	$607	$617
Laboratory	$285	$233	$203
Diagnostic Imaging	$59	$65	$64
Other Diagnostics	$33	$47	$44
Food Services	$83	$86	$109

The review of cost per weighted case shows that HCCSJ cost of providing inpatient care is much higher than most of its peers (both adult and paediatric). The area of greatest concern is Nursing with a direct cost per weighted case higher than all of the peers.

3.3 Current Financial Projection for 2002/03

In Section 3.1 it was noted that HCCSJ is projecting a reduced deficit for fiscal 2001/02 of about $4.1 million, and their current forecast for 2002/03 is an operating deficit of about $13.0 million. These results were shown in Exhibit 3.5. As can be seen in Exhibit 3.26 below, the Hospital is projecting flat revenue, negligible salary cost increases, but significant supply cost impact in 2002/03. These projections were prepared by the Hospital using the guidelines provided by the Department of Health and Community Services. Given the Hospital's performance this year in achieving better results than budgeted, these projections suggest the likely result without the implementation of the significant changes as recommended in this report.

Exhibit 3.26
Pro-Forma Operating Statement

	2000/2001 Actual	2001/2002 Projection	% *Change*	2002/2003 Forecast	% *Change*
Revenue					
Inpatient	11,248,625	10,967,236	-2.5%	11,651,875	6.2%
Outpatient	6,016,977	6,591,492	9.5%	6,336,527	-3.9%
MCP Grants	9,820,725	11,686,709	19.0%	11,145,600	-4.6%
External Services	1,591,116	2,080,534	30.8%	1,743,353	-16.2%
Dietary Recoveries	2,723,579	3,197,497	17.4%	2,979,982	-6.8%
Tuition Fees	1,761,796	493,356	-72.0%	1,530,070	210.1%
Workers' Compenation	2,872,948	2,444,621	-14.9%	2,696,285	10.3%
Shared Compensation	3,287,896	2,814,328	-14.4%	2,725,572	-3.2%
External Materials	1,132,192	775,130	-31.5%	1,017,663	31.3%
Other Income	2,872,345	1,186,703	-58.7%	1,081.406	-8.9%
Provincial Plan	$ 313,102,630	$ 345,008,122	10.2%	$ 346,662,381	0.5%
Total Revenue	$ 356,430,829	$ 387,245,726	8.6%	$ 389,570,714	0.6%
Compensation					
Salaries and Wages	$ 222,437,530	$ 233,897,326	5.2%	$ 235,617,599	0.7%
Employee Benefits	$ 40,114,437	$ 42,860,269	6.8%	$ 43,151,288	0.7%
Severance Expense	$ 1,149,265	$ 2,530,000	120.1%	$ 1,989,673	-21.4%
Purchased Services	$ 11,265,258	$ 10,851,691	-3.7%	$ 10,368,598	-4.5%
Total Compensation	$ 273,801,490	$ 290,139,286	6.0%	$ 291,127,158	0.3%
Supplies and Other Expenses					
Medical and Surgical supplies	$ 23,020,341	$ 24,086,349	4.6%	$ 26,446,138	9.8%
Drugs and Medical Gases	$ 12,127,465	$ 13,030,846	7.4%	$ 13,594,921	4.3%
Janeway - Mortgage Payment	$ 6,816,257	$ 10,178,708	49.3%	$ 9,717,500	-4.5%
Other Supplies	$ 53,414,326	$ 53,907,296	0.9%	$ 61,722,638	14.5%
Total Supplies	$ 94,800,711	$ 101,203,198	6.8%	$ 111,481,197	10.2%
Total Expenses	$ 368,602,201	$ 391,342,484	6.2%	$ 402,608,355	2.9%
Surplus (Deficit)	$ (12,171,372)	$ (4,096,758)	-66.3%	$ (13,037,641)	218.2%

4.0 Programs and Clinical Review

4.1 Hospital Programs

Hospital Program Structure

Under the program-based model at the HCCSJ, care is provided in the following clinical areas:

- Cardiac Care
- Continuing Care
- Mental Health
- Rehabilitation
- Women's Health
- Medicine
- Child Health
- Critical Care
- Palliative Care
- Senior Care
- Emergency/ Trauma
- Surgery

These clinical programs are supported by the following services:

- Ambulatory Care
- Diagnostic Imaging
- Laboratory
- Perioperative

Mapping of CMGs to Programs

A primary data source for the examination of the services provided by the HCCSJ is the data submitted to the Canadian Institute for Health Information (CIHI) for each acute care inpatient and ambulatory procedure patient discharged from HCCSJ in 2000/2001. We obtained CIHI data records from the Newfoundland and Labrador Centre for Health Information for every inpatient and ambulatory procedure patient discharged from any hospital in Newfoundland and Labrador in fiscal year 2000/2001.

To support use of this data to assess the relative utilization and clinical efficiency of the HCCSJ, it was necessary to determine how the CIHI records could be assigned to one of the HCCSJ programs. The intent was that every CIHI record, including those from other hospitals, could be assigned to one of the following mutually exclusive HCCSJ inpatient acute care programs:

- Women's Health
- Mental Health
- Medicine
- Child Health
- Cardiac Care
- Surgery

Because the data used is acute care discharge data, cases were not assigned to the Continuing Care, Senior Care, or Rehabilitation programs. Cases were not assigned to Critical Care, Palliative Care, or Emergency/Trauma, since patients do not normally spend their entire acute care stay in these programs.

Steps in Program Assignment Algorithm

The steps in the algorithm for assignment of CIHI records to HCCSJ program were:

- Select all records in the pregnancy and childbirth Major Clinical Category (MCC) (14) and the female reproductive MCC (13) and assign to Women's Health. This included all pregnancy and childbirth and gynaecology patients under 16 years old at the time of admission. Newborn patients in MCC 15 (Newborns and Neonates) were assigned to Women's Health.
- All remaining records for patients less than 16 years old on the day of admission were assigned (including neonates) to Child Health.
- All remaining records for the mental health MCC (19) were assigned to Mental Health.
- All remaining records for the circulatory MCC (5) were assigned to Cardiac Care. This includes the cardiac activity at the St. Clare's site, which within the HCCSJ is considered to be Medicine (or if a surgical procedure is performed, Surgery).
- From the remaining records, those belonging to Surgery were identified. This was done using the CIHI designation of CMGs that are considered to be surgical.
- All remaining records were assigned to the Medicine program.

Using this approach meant that any paediatric psychiatry or paediatric surgery was captured in the Child Health program rather than the Mental Health or Surgical program.

4.2 Program Activity Levels

Using the algorithm for assignment of CIHI records to programs, and additional data provided by the Corporation, the activity of HCCSJ in 2000/2001 by program, is described below.

Patient Volume by Program, Site, and Age

Exhibit 4.1 shows the distribution of HCCSJ inpatient and ambulatory procedure patients, by program, HCCSJ site, and CIHI age band for fiscal year 2000/2001.

Exhibit 4.1
Distribution of HCCSJ 2000/2001 Inpatient and Ambulatory Procedure Cases by Site and Age Group

Program	HCCSJ Site	0 to 17 Years Old	18 to 69 Years Old	70 and Older	Total
Cardiac Care	Grace		51	46	97
	HSC	1	1,420	864	2,285
	Janeway	3	1		4
	St Clare's	1	790	745	1,536
	Waterford		2		2
Cardiac Care Total		5	2,264	1,655	3,924
Child Health	Grace	-			-
	HSC	15			15
	Janeway	3,095			3,095
	St Clare's	4			4
	Waterford	2			2
Child Health Total		3,116			3,116
Medical	Grace	1	138	42	181
	HSC	37	2,726	1,171	3,934
	Janeway	104	52	1	157
	St Clare's	28	1,515	1,001	2,544
	Waterford		10	2	12
Medical Total		170	4,441	2,217	6,828
Mental Health	HSC	12	356	42	410
	Janeway	4	2		6
	St Clare's	8	246	29	283
	Waterford	22	988	95	1,105
Mental Health Total		46	1,592	166	1,804
Surgery	Grace	6	275	68	349
	HSC	49	2,387	839	3,275
	Janeway	69	16	1	86
	St Clare's	33	1,806	586	2,425
	Waterford		2	3	5
Surgery Total		157	4,486	1,497	6,140
Womens Health	Grace	12	1,025	14	1,051
	HSC	34	2,632	57	2,723
	Janeway	2,222			2,222
	St Clare's		17	4	21
Womens Health Total		2,268	3,674	75	6,017
Grand Total		5,762	16,457	5,610	27,829
Percent Distribution by Age		21%	59%	20%	100%

Exhibit 4.2 shows a statistical summary of the 2000/2001 HCCSJ acute care activity by program, based on the 2000/2001 data for inpatients and ambulatory procedures submitted to CIHI. Data for patients discharged from the Leonard A. Miller Centre and the Dr.

Walter Templeman Community Health Centre on Bell Island are not included in the activity shown in this table, but are shown separately.

Exhibit 4.2
2000/2001 HCCSJ Activity by Program

Activity Measure	Cardiac Care	Child Health	Medical	Mental Health	Surgery	Womens Health	Grand Total
Inpatient Cases	3,924	3,116	6,828	1,804	6,140	6,017	27,829
Total Inpatient Days	40,435	16,493	58,676	47,255	61,962	27,727	252,548
ALC Days	792	23	4,472	1,512	2,546	17	9,362
% ALC Days	2.0%	0.1%	7.6%	3.2%	4.1%	0.1%	3.7%
Average LOS	10.30	5.29	8.59	26.19	10.09	4.61	9.07
Inpatient RIW	10,048	3,525	9,069	4,934	14,529	5,095	47,200
Average RIW/Case	2.561	1.131	1.328	2.735	2.366	0.847	1.696
Average RIW/Day	0.249	0.214	0.155	0.104	0.234	0.184	0.187
Initial Amb. Proc. Cases	1,578	2,611	13,715	72	7,134	1,511	26,621
Screened Amb. Proc. Cases	168	2,390	12,518	71	6,310	1,502	22,959
Amb. Proc. As % of Total Separations	4.1%	43.4%	64.7%	3.8%	50.7%	20.0%	45.2%
Amb. Proc. RIW	167	491	1,689	6	1,534	280	4,166
Avg. RIW/Amb. Proc.	0.995	0.206	0.135	0.083	0.243	0.186	0.181
Total IP and Amb. Proc. Cases	4,092	5,506	19,346	1,875	12,450	7,519	50,788
Total RIW Weighted Cases	10,215	4,016	10,758	4,939	16,063	5,374	51,367
Equivalent Beds @ 90% Occupancy	123	50	179	144	189	84	769

The programs with the largest inpatient volumes were Medicine, Surgery, and Women's Health. In terms of RIW weighted-cases, the Surgery program was the largest, with more than 30% of the total cases, followed by the Cardiac Care and Medical programs.

3.7% ALC Days

Overall, HCCSJ reported that 3.7% of inpatient days in acute beds were used by patients who no longer required acute care and were waiting for placement in an alternative setting. As will be discussed later in this report, ALC day reporting by the HCCSJ may be incomplete, and the true ALC day numbers may be as much as 50% higher than reported.

The ambulatory procedure data shown above is from the patient abstracts reported by HCCSJ to CIHI as part of the Same Day Surgery reporting system. These data include non-surgical activity and have been screened (using the Ontario Joint Policy & Planning Committee (JPPC) ambulatory procedure screen[56]) to show only those ambulatory patients who have an invasive procedure.

Patient Acuity Measured Using RIWs

The average HCCSJ inpatient RIW per case (a measure of the relative resource requirement for the care of the patient during their stay) is highest for the Mental Health program, and lowest for the Women's Health program. However, RIW values can be impacted by length of stay (very long stay patients are assigned higher RIWs). When the HCCSJ average RIW per inpatient day (a measure of the relative cost of an inpatient day) is examined, the highest daily RIWs are for the Cardiac and Surgery programs, and the lowest daily RIWs are for the Mental Health program.

Similar 2000/2001 activity volume data for the Miller Centre and the Templeman CHC (Bell Island) is shown in the following table.

Exhibit 4.3
2000/2001 HCCSJ Miller Centre and Bell Island Activity

Activity Measure	Bell Island	Miller Centre	Grand Total
Inpatient Cases	221	467	688
Inpatient Days	3,341	19,757	23,098
ALC Days	0	466	466
% ALC Days	0.0%	2.4%	2.0%
Average LOS	15.12	42.31	33.57
RIW Weight	506	2,608	3,114
Avg. RIW/Case	2.291	5.584	4.527
Avg. RIW/Day	0.152	0.132	0.135
Beds @ 90% Occupancy	10	57	67

Patient Day and Occupancy Trends by Site

Exhibit 4.4 shows the three-year trend for inpatient day volumes by HCCSJ site. The days are based on census days reported by HCCSJ and may differ from CIHI discharge day volumes if a large number of very long stay patients are discharge in a particular year. The 2000/01 occupancy rates are based on the average number of beds staffed and in operation during the year, but do not include the impact of summer and/or holiday closures.

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[56] A description of the Ontario ambulatory procedure screen has been provided to HCCSJ as part of the Hay/CIHI benchmarking database report.

Exhibit 4.4
HCCSJ Patient Days and Occupancy by Site

HCCSJ Site	1999/ 2000 Days	2000/01 Days	Reported Beds *	2000/01 Occup.	2001/02 Oct YTD Days	2001/02 Forecast Days	Reported Beds **	2001/02 Occup.	Change in Days from 2000/01
General Hospital Health Sciences Centre	95,956	115,426	392	80.7%	71,115	121,911	386	86.5%	5.6%
Grace	51,672	11,364	-		-	-	-		-100.0%
St. Clare's Mercy Hospital	63,475	72,432	231	85.9%	44,458	75,322	249	82.9%	4.0%
Janeway Children's Health & Rehab Centre	21,737	20,876	94	60.8%	12,002	20,575	93	60.6%	-1.4%
Waterford Hospital ***	67,925	68,569	204	92.1%	37,895	64,963	219	81.3%	-5.3%
Dr. Walter Templeman HC ****	4,416	4,766	20	65.3%	2,962	5,078	20	69.6%	6.5%
Dr. Leonard A. Miller Centre ****	47,751	50,510	142	97.5%	29,716	50,942	154	90.6%	0.9%
Total	352,932	343,943	1,083	87.0%	198,148	338,791	1,121	82.8%	-1.5%

* Average staffed beds as reported by HCCSJ in annual bed worksheet.

** Beds as reported in Health Forums 2001 St. John's Region Regional Profile.

*** Days and beds include long-term psychiatry.

**** Days and beds include long-term care.

The 2000/01 reported beds are based on the numbers reported by HCCSJ in the annual bed worksheet. Information regarding beds staffed and in operation by site for 2001/02 is not routinely tracked by the Corporation and was not available (bed information is monitored on a program basis, not a site basis). The 2001/02 reported bed numbers are as reported in the Health Forums 2001 St. John's Region Regional Profile and show total beds available, not all necessarily staffed and in current operation.

Exhibit 4.5 shows the beds and average occupancy by program for 2000/01 and 2001/02 year-to-date. These bed data are adjusted to reflect the impact of summer and Christmas bed closures. Summer and Christmas bed closures reduce the overall bed availability by 43 beds per year, and have the greatest impact on available beds for the Surgery program. If these closures are assumed to be concentrated in a 3-month period, then they are equivalent to the loss of access to an average of 129 beds per day, for each day of the bed closure period.

Exhibit 4.5

HCCSJ Beds and Occupancy by Program

Inpatient Units	2000/2001		2001/2002 YTD (7 Mo.)	
	Staffed Beds	% Occupancy	Staffed Beds	% Occupancy
Child Health	94	66.1%	89	65.5%
Medicine	158	103.1%	161	100.9%
Cardiac Care	56	90.2%	62	95.2%
Surgery	200	95.8%	207	88.2%
Women's Health	92	68.4%	94	65.3%
Mental Health	216	97.5%	209	96.6%
Critical Care	34	76.6%	33	77.6%
Palliative Care	8	73.3%	8	77.9%
Seniors	41	96.3%	-	
Rehabilitation	15	93.9%	-	
Continuing Care	107	97.5%	156	100.3%
Bell Island	20	67.5%	20	68.7%
Total	1,040	90.7%	1,038	89.4%

HCCSJ Activity by Level of Care

An additional way to compare activity by HCCSJ site is to categorize the patient separations by level of care. The Hay Health Care Consulting Group has created an algorithm that assigns level of care to individual cases based on the CMG, the CIHI complexity level assigned to the patient, and the patient age. This algorithm has been widely used for planning and operational review projects and is used as a cost adjustment factor in the Ontario hospital funding methodology.

Patient separations are assigned to one of the following categories:

- Primary
- Secondary
- Tertiary
- Quaternary

Exhibit 6 shows the percent of the total RIW-weighted cases for each HCCSJ site that fell into each level of care (tertiary and quaternary have been combined).

Exhibit 4.6

Percent of Total Weighted Cases by Level of Care for Each HCCSJ Site in 2000/01

Hospital Site	Primary	Secondary	Tertiary/ Quaternary
Grace	43%	36%	21%
Health Sciences	20%	43%	38%
Janeway	25%	36%	39%
St. Clare's	18%	52%	30%
Waterford	10%	74%	16%
Bell Island	32%	67%	1%
Miller Centre	1%	93%	6%
HCCSJ Total	19%	48%	32%

It is important to note that he high volume of secondary RIW weighted-cases at Bell Island is mainly due to the discharge in 2000/01 of 4 secondary level stroke patients, with a total length of stay of almost 5 years.

The HCCSJ sites with the greatest tertiary emphasis are the Janeway and the General Hospital. The sites with the least tertiary emphasis are Bell Island and the Miller Centre.

One of the factors that determines assignment of level of care is the documentation of patient complexity on the separation abstracts submitted to CIHI. CIHI assigns a complexity level to most patients (obstetrical, newborn/neonates, mental health, and HIV/AIDS patients are not assigned a complexity level) on the basis of the comorbid diagnoses recorded on the separation abstract.

The complexity levels are:

- Level 1 No complexity
- Level 2 Complexity related to chronic conditions
- Level 3 Complexity related to serious conditions
- Level 4 Complexity related to life-threatening conditions
- Level 9 Complexity effect already incorporated in CMGs

Overall, 81% of inpatients discharged from HCCSJ (for whom a complexity level other than 9 is assigned) are Level 1, no complexity. The following table shows the distribution of complexity levels by site.

Exhibit 4.7
Percent of Cases by CIHI Complexity Level for Each HCCSJ Site

Hospital Site	% Inpatient Case Distribution by Complexity Level (for cases assigned complexity)			
	No Complexity	Chronic Illness	Serious Illness	Life Threatening Illness
Grace	88%	6%	3%	2%
Health Sciences	76%	13%	6%	4%
Janeway	91%	5%	2%	2%
St. Clare's	81%	11%	5%	3%
Waterford	58%	11%	5%	26%
Bell Island	100%	0%	0%	0%
Miller Centre	85%	8%	6%	2%
HCCSJ Total	81%	11%	5%	3%

Most Waterford inpatients, and almost 50% of Grace and Janeway inpatients, are assigned to CMGs for which complexity levels are not assigned (e.g. obstetrics, neonates and newborns, and mental health). Elsewhere in this report we compare complexity level distributions for HCCSJ with other academic health science centres.

Discharge Disposition

Almost 93% of HCCSJ inpatients are discharged to their home upon completion of their acute care stay. The average length of stay for these patients is 8.2 days. Patients not discharged home have a longer length of stay, ranging from 16.3 days for in-hospital deaths to 31.7 days for discharges to chronic care. Patients discharged to a nursing home bed (only 0.6% of cases) have an average length of stay of 28.9 days, but spend 35% of this time, or an average of 10.2 days, waiting for placement (as ALC).

Exhibit 4.8

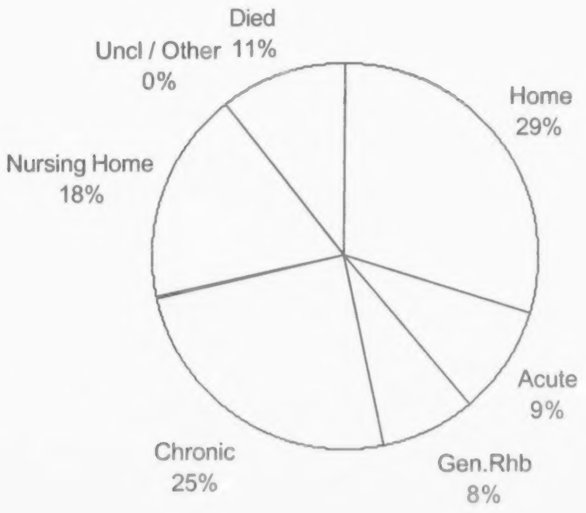
Distribution of HCCSJ Inpatient Activity by Discharge Disposition (excluding Miller Centre & Bell Island)

Discharge Disposition	Cases	% Cases	Days	Avg. LOS	ALC Days	% ALC	Avg. ALC per Case
Home	25,921	92.7%	213,409	8.23	2,778	1.3%	0.1
Acute	393	1.4%	9,581	24.38	851	8.9%	2.2
IP Rehab	188	0.7%	5,114	27.20	770	15.1%	4.1
Chronic	393	1.4%	12,443	31.66	2,309	18.6%	5.9
Nursing Home	162	0.6%	4,679	28.88	1,649	35.2%	10.2
Other	5	0.0%	471	94.20	0	0.0%	0.0
Died	901	3.2%	14,652	16.26	997	6.8%	1.1
Total	27,963	100.0%	260,349	9.31	9,362	3.6%	0.3

Exhibit 4.9 shows the distribution of reported HCCSJ ALC days by eventual discharge disposition of the patients. Discharges of inpatients to home care are not identified on the patient abstracts submitted to CIHI by HCCSJ. It is likely that some of the patients coded as discharged home are receiving continuing care in their home.

Exhibit 4.9

Distribution of HCCSJ ALC Days by Discharge Disposition



Admits Through ER by site

42% of HCCSJ inpatients enter the hospital via the ER. Exhibit 4.10 shows the percent admission of inpatients via the ER by site, and the average length of stay for each of admissions via the ER and direct admissions.

Exhibit 4.10
Admissions via ER by HCCSJ Site

HCCSJ Site	Total IP Cases	% IP Cases Via ER	Average Length of Stay	
			Enter Via ER	Direct Entry
Health Science	12,655	45.7%	11.44	8.88
Grace	1,678	15.3%	6.88	5.28
St. Clare's	6,813	55.8%	10.79	8.40
Waterford	1,245	25.0%	21.45	23.68
Janeway	5,570	29.7%	4.49	5.45
Total	27,963	42.2%	10.42	8.50

The Medicine and Cardiac Care programs are most dependent on the ER as the source of patients, with more than two thirds entering hospital via the ER. Only 5% of Women's Health patients enter the hospital via the ER.

Exhibit 4.11
Admissions via ER by HCCSJ Program

Program	Total IP Cases	% IP Cases Via ER	Average Length of Stay	
			Enter Via ER	Direct Entry
Women's Health	6,017	5.0%	4.44	4.62
Child Health	3,116	50.8%	4.36	6.26
Mental Health	1,931	35.2%	23.78	31.07
Cardiac Care	3,924	67.4%	9.91	11.11
Surgery	6,141	28.6%	16.82	7.39
Medicine	6,831	70.8%	8.85	7.96
Total	27,963	42.2%	10.42	8.50

ER Wait Time

Patients who are admitted via the ER wait in the ER for an average of 205 minutes before obtaining a bed on an inpatient nursing unit. The average wait time varies across the HCCSJ sites from no time at the Janeway to 288 minutes (four and three quarter hours) at the Health Sciences Centre.

Exhibit 4.11
Average Wait Time in ER (after admission decision) As Reported [illegible] CIHI Records

Hospital Site	Avg. Wait (minutes)
Health Sciences	288
Grace	60
St Clare's	193
Waterford	30
Janeway	0
HCCSJ Total	205

Academic Role

The HCCSJ is the affiliated teaching hospital with the Memorial University of Newfoundland and Labrador Faculty of Medicine. The Royal College training programs of the Faculty of Medicine largely use the sites of the HCCSJ as the clinical setting for these programs.

4.3 Analysis of Population Utilization of HCCSJ Programs

Program Population Utilization Rates

There are many health services research studies that have identified variation in the rates of use of health services by different populations. Most small area variation analyses measure the per population rate of use of a health service, by the residents of a geographic region, taking into account the age and gender mix of the population of the region. When utilization rates are compared across regions, variations are inevitable found.

When examining overall rates of hospital utilization, there is no obvious right or wrong rate.

High rates of hospital utilization by the residents of a region may reflect:

- Greater need for hospital care due to factors not accounted for by age and gender adjustments
- Greater reliance on hospitals for care that can be provided outside the hospital system in other communities
- Inappropriate admissions

Low rates of hospital utilization by the residents of a region may reflect:

- Lower need for hospital care
- Greater use of non-hospital providers
- Barriers to access or lack of capacity of hospital services

As part of the project's attempt to understand the patterns of use of hospital services in the St. John's region, and the reliance on the HCCSJ by residents of other regions, we calculated utilization rates for each region in the province. All utilization rates were calculated as hospital separations (inpatient and consistently screened ambulatory procedures) per 10,000 age/gender standardized population.

The numerator in the utilization rates is the count of hospital separations in 2001/02 for ***the residents of the region*** in any hospital in the province. For example, if a resident of Labrador is hospitalized in St. John's, that hospitalization is attributed to Labrador (the patient's residence) for purposes of utilization rate calculation. The Newfoundland and Labrador Centre provided hospital separation data for the entire province for Health Information.

Utilization Rates for the Regions of Newfoundland and Labrador

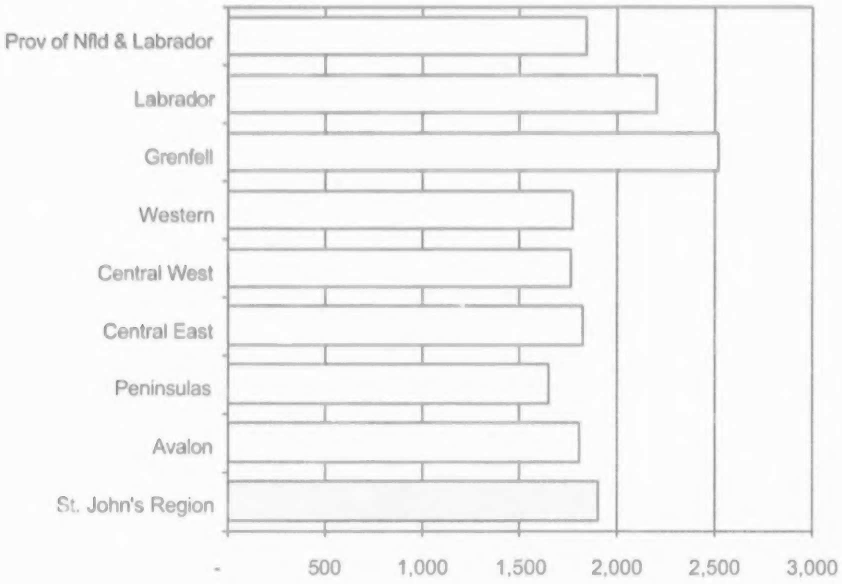
The denominator in the utilization rates is the population of the region in 2001/02. The Newfoundland and Labrador Centre for Health Information provided population estimates, by 5-year age/gender cohorts for each region in the province.

Exhibit 4.12
Hospital Separations per 10,000 Age/Gender Standardized Population by Region

Case Type	St. John's Region	Avalon	Peninsulas	Central East	Central West	Western	Grenfell	Labrador	Prov of Nfld & Labrador
Total	1,904	1,804	1,644	1,824	1,759	1,771	2,515	2,200	1,840
Womens Health	297	301	320	393	368	429	336	377	340
Child Health	184	152	156	159	192	142	187	201	171
Mental Health	77	43	42	50	67	81	54	91	67
Cardiac Care	155	194	183	233	173	185	336	212	182
Surgery	429	372	351	402	445	381	364	413	403
Medical	762	742	594	587	514	553	1,238	906	678
MNRH	97	83	103	113	138	130	198	159	113
Avoidable	51	46	56	62	51	54	80	118	55
Inpatient	1,050	1,089	1,108	1,323	1,234	1,269	1,779	1,607	1,179
Ambul Proc	854	715	536	501	524	501	736	593	661
% Ambul Proc	45%	40%	33%	27%	30%	28%	29%	27%	36%
Out of Region	10	973	769	415	437	182	349	583	333
% Out of Region	0.5%	53.9%	46.7%	22.8%	24.9%	10.3%	13.9%	26.5%	18.1%

The overall utilization rate for the residents of the St. John's region is 1,904 hospital separations per 10,000 population. This rate is higher than the utilization rate for all regions of Newfoundland and Labrador except Grenville and Labrador.

Exhibit 4.13
Hospital Separations per 10,000 for Population of Regions



The utilization rates shown above count each hospital separation as a separate episode and may include multiple hospital separations within the fiscal year for an individual resident. For patients transferred between two acute care hospitals, a separation from each hospital will also be counted (i.e., when the patient is transferred from hospital A to hospital B, there is a separation from hospital A, and when the patient leaves hospital B, there is a separation from hospital B. Because there may be variation by region in the propensity of patients to be transferred between hospitals we decided to test the impact on utilization rates of removing the potential double counting of transfers.

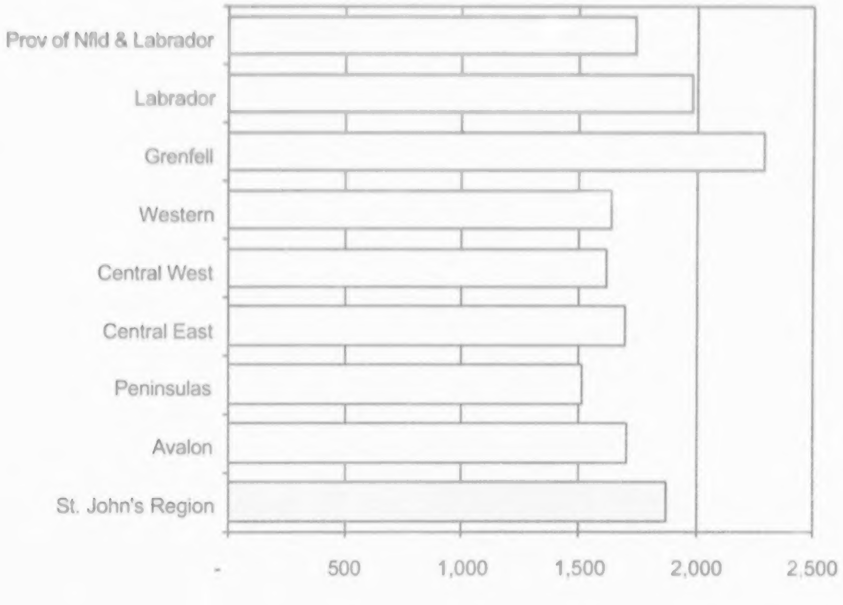
Impact of Removing Double Counting of Transfers

We found that transfer rates were lowest for the residents of the St. John's region, and highest for the residents of Labrador. When the double counting of transfers was removed, the overall utilization rates dropped, but by the smallest amount for the residents of St. John's. Exhibit 4.14 shows the resulting impact on utilization rates.

St. John's would Have 4,000 Fewer Hospital Separations at Average Provincial Utilization Rate

With transfers removed, the St. John's utilization rate is 1,873 hospital separations per 10,000 population. With transfers removed, the overall provincial utilization rate excluding St. John's, is 1,662 hospital separations per 100,000. To have a utilization rate equal to the provincial average (excluding St. John's) there would have to have been over 4,000 fewer hospital separations of St. John's residents in 2000/2001.

Exhibit 4.14
Hospital Separations per 10,000 for Population of Regions (with Transfer Double-Counting Removed)



Rates of hospital separations by the residents of St. John's are the lowest in the province for the Women's Health and Cardiac Care programs. Rates of hospital separations by the residents of St. John's are above the provincial average for the Child Health, Mental Health, Medicine, and Surgery programs.

Almost All Hospital Care for St. John's Region Provided by HCCSJ

While the residents of the other regions of the province often leave their home region for hospital care (often travelling to the HCCSJ), the St. John's region is highly self-sufficient, with less than 1% of the hospital separations for St. John's residents being provided in a hospital outside the St. John's region.

Exhibit 4.12 showed that St. John's region residents had the 2nd lowest rate of inpatient admission to hospital for Case Mix Groups (CMGs) categorized by CIHI as "May Not Require Hospitalization".

St. John's Has Low Rate for Avoidable Hospitalization Conditions

Exhibit 4.12 also showed that St. John's region residents had the 2nd lowest rate of admission to hospital for "avoidable hospitalization conditions". These are conditions, identified in the health services research literature, for which hospital admission might be avoided through earlier treatment or access to primary care and other community health care resources (JAMA 1992 Nov 4;268(17):2388-94). The avoidable hospitalization conditions used for this analysis are:

- Pneumonia, Congestive Heart Failure, Asthma, Cellulitis, Ulcer, Pyelonephritis, Diabetes, Appendix, Hypertension, Hypokalemia, Immunizable Conditions and Gangrene.

A high rate of admission for "avoidable hospitalization conditions" in a region has been used as evidence of the existence of an under-developed primary care system and/or lack of hospital ambulatory clinic capacity.

The low rate of admissions for MNRH and for avoidable hospitalization conditions for St. John's residents, relative to the rest of the province, are difficult to reconcile with the overall high rates of utilization for St. John's. It may just be that proximity to specialists and supporting diagnostic technology provides greater access to diagnosis and treatment which leads to disproportionate use of hospital services.

Utilization Rates for Populations Served by Academic Health Science Centres

Normally, urban populations served primarily by academic health science centres have the lowest utilization rates. This phenomenon is attributed to:

- Greater availability of other, alternative, health services in the large urban centres in which universities with medical schools are located.
- Proximity of population to hospital due to high population density, thereby increasing the likelihood that a physician can avoid admitting a patient with the knowledge that hospital services can be readily accessed.
- Greater use of standardized protocols, and familiarity with evidence-based utilization in an academic environment.

To compare the utilization rates for the St. John's region with utilization rates for other academic health science centres, we obtained CIHI patient separation records for all hospital separations for the residents of Halifax, Ottawa, Kingston, Toronto, Hamilton, and London. Our expectation was that we would find very similar utilization rates across these regions, given that the residents in the regions receive most of their hospital care in academic health science centres.

Prior to comparing utilization rates, we collated health care utilization and other indicators for the residents of each region, taken from the CIHI 2001 Health Care in Canada report. Exhibit 4.15 shows the comparison of these indicators.

Exhibit 4.15
Health Care Utilization and Other Indicators for Residents of Selected Academic Health Science Centres

Region	% Pop'n Over 65	Life Expectancy	Physicians per 100,000 Pop'n		Age/Gender Standardized Rate per 100,000			
			GP/ FP	Specialists	Bypass Surgery	Hip Replacement	Knee Replacement	Hysterectomy
St. John's	11.2%	78	119	157	98.9	30.4	26.7	544
Halifax	10.4%	78	126	165	118.7	78.4	79.5	530
Ottawa	12.0%	79	105	134	92.6	60.0	66.6	472
Kingston	15.1%	78	96	95	105.3	73.9	82.7	513
Toronto	13.3%	79	114	164	84.5	54.7	58.2	299
Hamilton	14.1%	78	91	160	88.8	63.0	85.0	470
London	12.9%	78	87	140	85.5	70.5	78.2	469
Canada	NA	NA	94	91	95.5	57.0	61.4	462

A smaller portion of the residents of St. John's and Halifax are aged 65 and older. Life expectancy at birth is very similar across all of the regions. The St. John's region has one of the largest numbers of general and family practitioners per 100,000 population, and a number of specialist physicians per 100,000 population similar to the other regions.

The St. John's region has a relatively high rate per population for bypass surgery, and extremely low rates for hip replacement and knee replacement surgery. The rate of hysterectomy for St. John's residents is the highest of any of the regions.

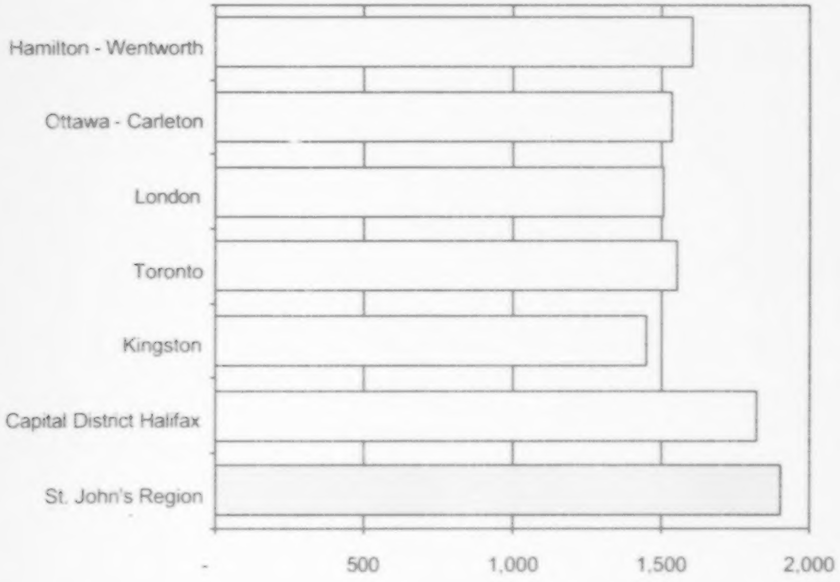
Exhibit 4.16 shows the results of the comparisons of utilization rates for the residents of the selected regions. The overall utilization rate for the residents of St. John's is the highest of all of the regions examined (shown graphically in Exhibit 4.17).

Exhibit 4.16

Hospital Separations per 10,000 Age/Gender Standardized Population by Academic Health Science Region

Case Type	St. John's Region	Capital District Halifax	Kingston	Toronto	London	Ottawa - Carleton	Hamilton - Wentworth
Total	1,904	1,822	1,447	1,552	1,504	1,534	1,605
Womens Health	297	325	316	362	342	357	340
Child Health	184	115	96	92	82	77	99
Mental Health	77	51	55	57	49	33	47
Cardiac Care	155	128	126	113	111	98	148
Surgery	429	535	412	401	436	472	440
Medical	762	667	442	528	485	496	530
MNRH	97	63	55	52	58	45	48
Avoidable	51	46	53	46	39	37	51
Inpatient	1,050	912	858	855	836	785	906
Ambul Proc	854	910	589	697	668	749	698
% Ambul Proc	45%	50%	41%	45%	44%	49%	44%
Out of Region	10	39	111	153	74	32	160
% Out of Region	0.5%	2.1%	7.7%	9.8%	4.9%	2.1%	10.0%

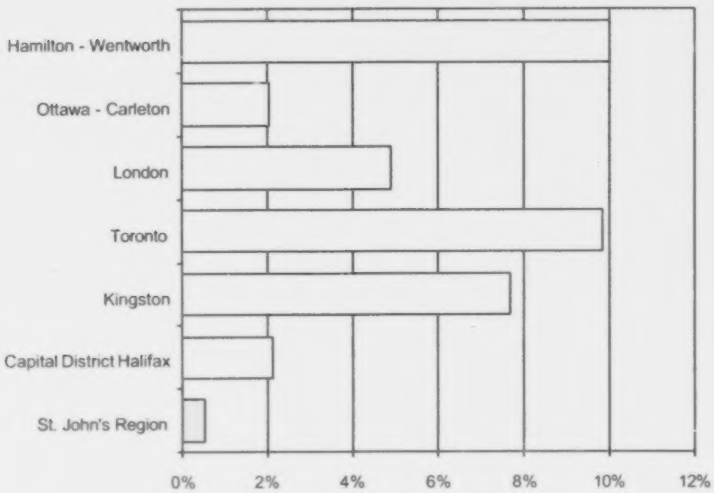
Exhibit 4.17
Hospital Separations per 10,000 for Population of Regions



The St. John's region is the most self-sufficient of all of the regions (very few residents are hospitalized outside the region). This means that the hospitalization rates for the region can be attributed exclusively to the practices of the HCCSJ.

Exhibit 4.18

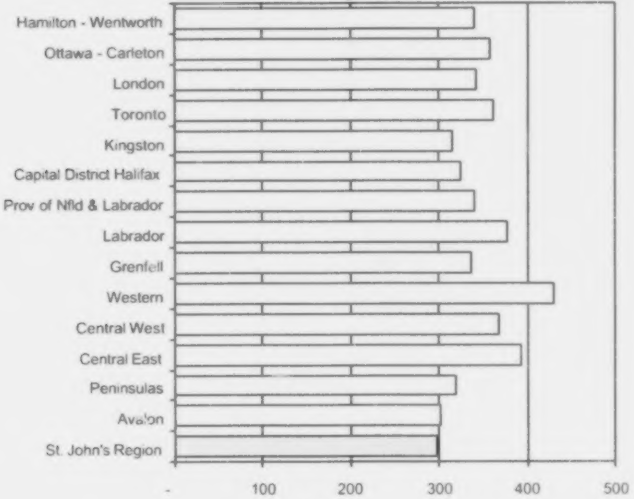
Percent of Hospital Separations for Residents of Region Provided in Hospital outside Region



The Women's Health program utilization by residents of St. John's is the lowest of all regions considered in these comparisons.

Exhibit 4.19

Women's Health Hospital Separations per 10,000 for Population of Regions



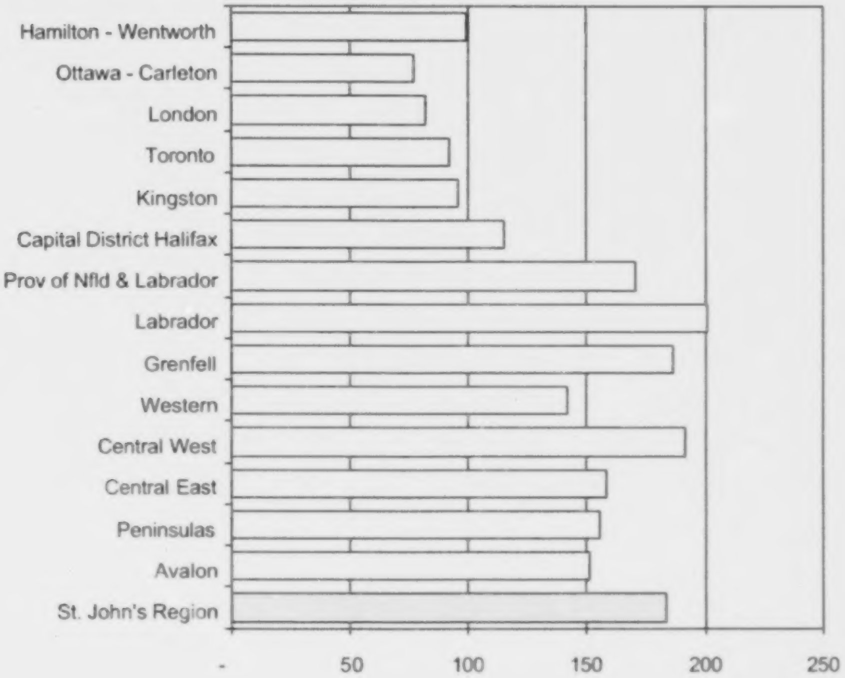
Women's Health

The low Women's Health utilization rates are due mainly to low rates of vaginal delivery and abortions, thus reflecting the lower fertility for the province and for St. John's. However, the St. John's region has the highest utilization rate for caesarian section.

Child Health

The St. John's utilization rate for the Child Health program is much higher than for any other academic health science centre, and more than double the rates for some of these.

Exhibit 4.20
Child Health Hospital Separations per 10,000 for Population of Regions



The St. John's utilization rate for the Child Health program is much higher than for any other academic health science centre

The high Child Health utilization rate is mainly due to high rates of use of hospitals for the following CMGs: Dental Extractions/Restorations (MNRH), Myringotomy (MNRH), and Esophagitis / Gastroenteritis / Miscellaneous Digestive Disease. The high use of hospitals for paediatric dentistry was attributed to the requirement in Newfoundland and Labrador that dentistry that requires anaesthetic be performed in a hospital.

Studies where clinical indications for the appropriateness of myringotomy surgery have been defined, have found high rates of the procedure for patients where these clinical indications were not present.[57] A similar process to explicitly define the indications for myringotomy in HCCSJ, and an assessment of the appropriateness of the current rate of surgery, should be conducted by HCCSJ.

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[57] Kleinman LC, Kosecoff J, Dubois RW, Brook RH., The medical appropriateness of tympanostomy tubes proposed for children younger than 16 years in the United States. JAMA 1994 Apr 27;271(16):1250-5

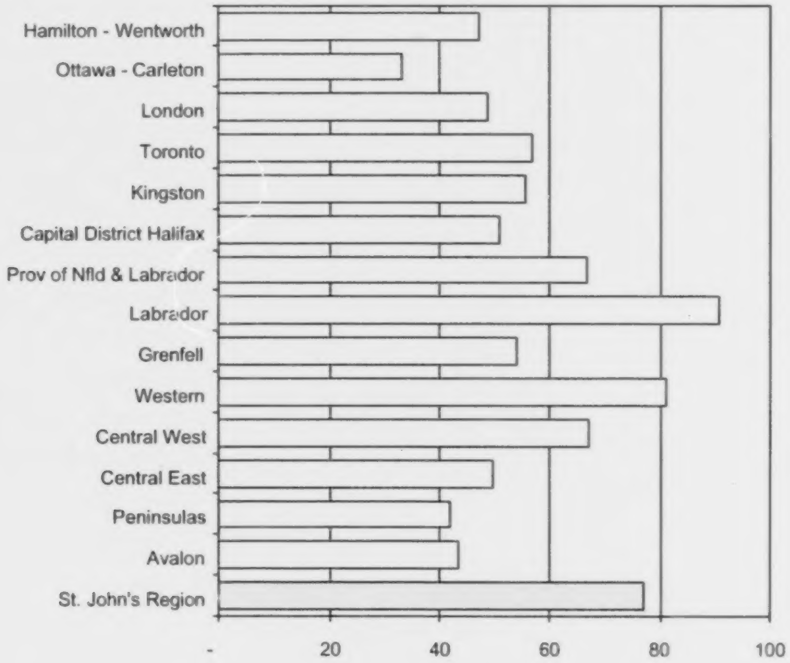
Mental Health

The St. John's region utilization rate for the Mental Health program is higher than for any of the other academic health science centres (Exhibit 4.21).

The St. John's utilization rate for the Mental Health program is higher than for any of the other academic health science centres

Comparison of utilization of mental health services can be confounded by the propensity of patients with chronic mental illness to relocate to the community where tertiary mental health care and more extensive community based mental health services are offered.

Exhibit 4.21
Mental Health Hospital Separations per 10,000 for Population of Regions



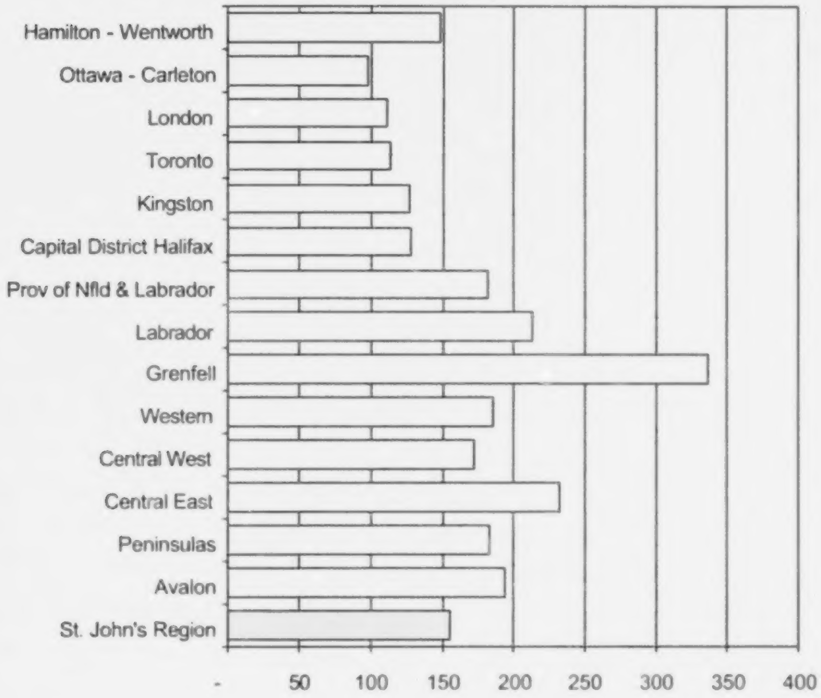
Cardiac Care

Exhibit 4.22 shows the rates of Cardiac Care hospital separations per 10,000 population. While the St. John's region has the lowest Cardiac Care utilization rate in the province, that utilization rate is the highest (just slightly higher than Hamilton) of the academic health science centres.

St. John's has highest utilization rate for cardiac care of all the academic health science centres.

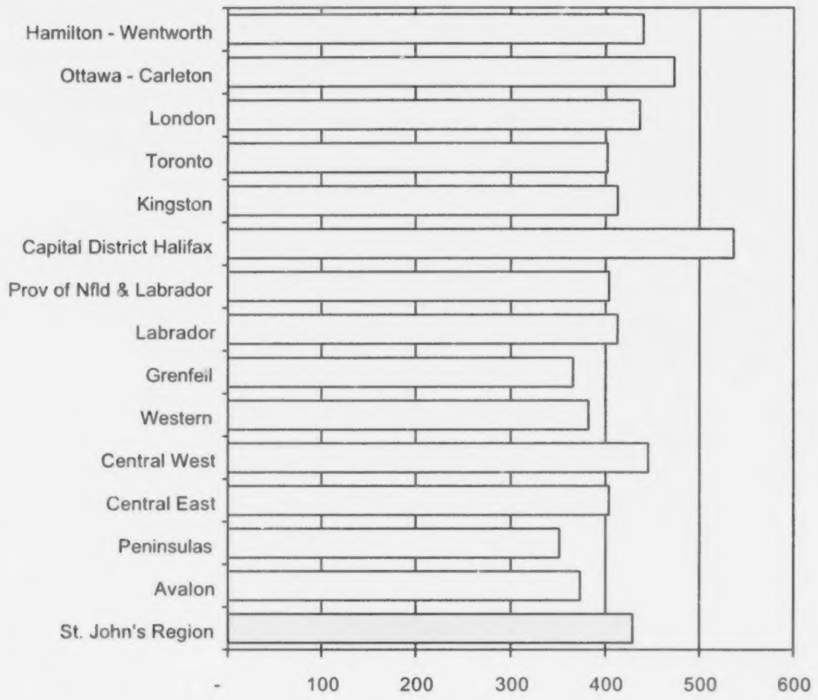
The relatively high utilization rates for Cardiac Care in the province of Newfoundland and Labrador can be explained by the high burden of cardiovascular disease for the residents of the province. The CIHI annual health statistics report reports that the rate of mortality due to circulatory disease for residents of Newfoundland and Labrador is the highest in the country, 30% above the Canadian average.

Exhibit 4.22
Cardiac Care Hospital Separations per 10,000 for Population of Regions



Surgery The utilization rate for Surgery for the residents of the St. John's region is similar to the rates in other AHSCs.

Exhibit 4.23
Surgery Hospital Separations per 10,000 for Population of Regions



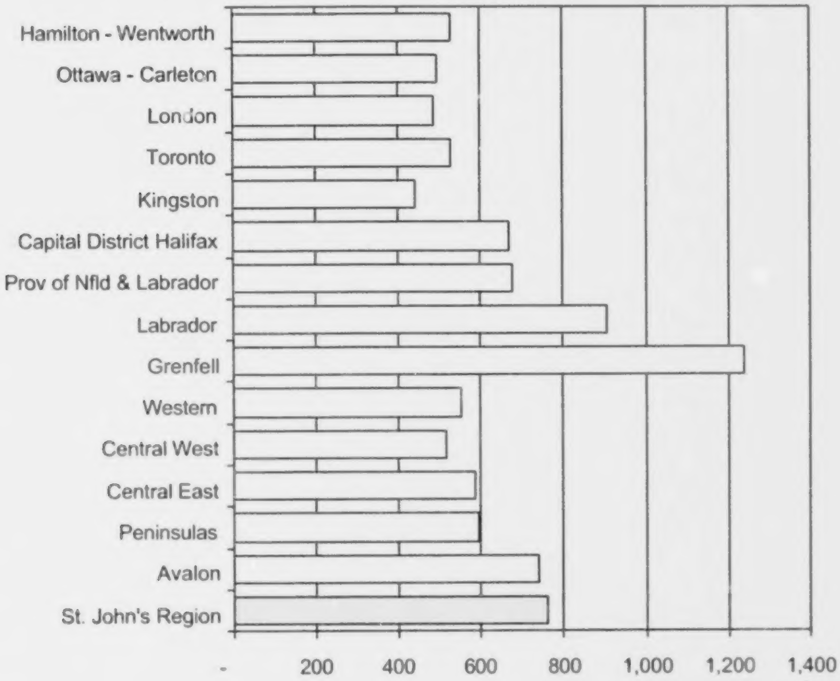
Medicine

The St. John's utilization rate for the medicine program is higher than the rates for all the other AHSCs

The Medicine utilization rate for the residents of the St. John's region is higher than the rates for residents of all of the other academic health science centres.

The St. John's rate is at least 50% higher than the rates for the Ontario centres.

Exhibit 4.24
Medicine Hospital Separations per 10,000 for Population of Regions



Opportunities to Reduce Hospital Use

The relatively high rates of utilization of acute care hospitals by the residents of the St. John's region, compared to both other regions in the province, and to other academic health science centres, should prompt HCCSJ to carefully examine opportunities to reduce utilization. While high utilization rates are not necessarily evidence of inappropriate utilization, it is very unusual to see utilization rates in an academic health science centre that are higher than the average for the rest of the province.

Available measures of the relative capacity of complementary health services (primary care, home care, and long-term care) suggest that the St. John's region is reasonably well resourced for these services.

St. John's MNRH admission rate is the highest of all of the academic health science centres

While the St. John's region has a low rate of admission of MNRH patients compared to the rest of the province, Exhibit 4.25 shows that the St. John's MNRH admission rate is the highest of all of the academic health science centres. Later in this report we further examine opportunities to replace inpatient admission with ambulatory procedures and identify potential investments in ambulatory clinic capacity that could help HCCSJ further avoid admissions.

Exhibit 4.25
2000/2001 Standardized Rate of Admissions for MNRH CMGs per 10,000 Population

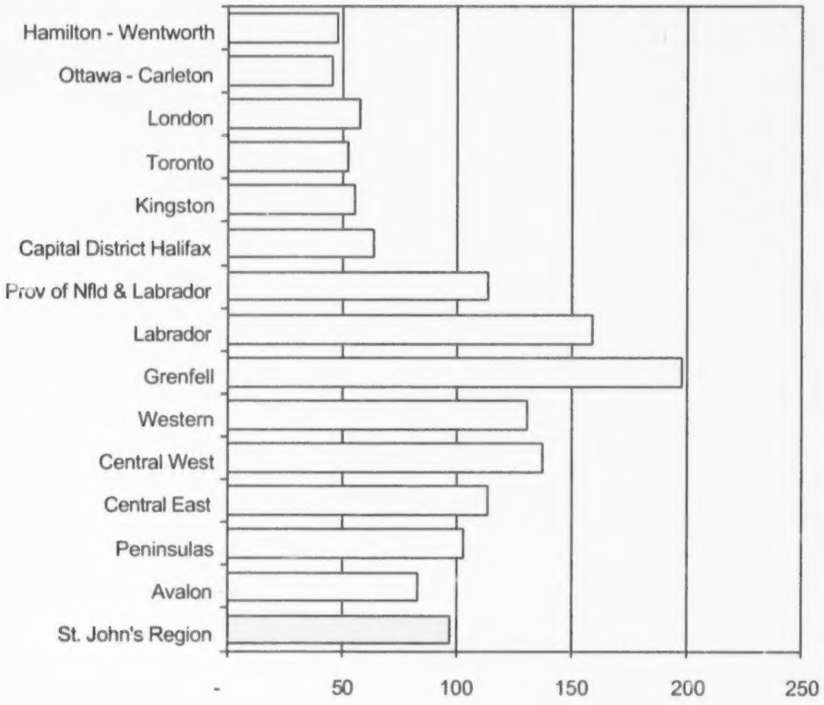


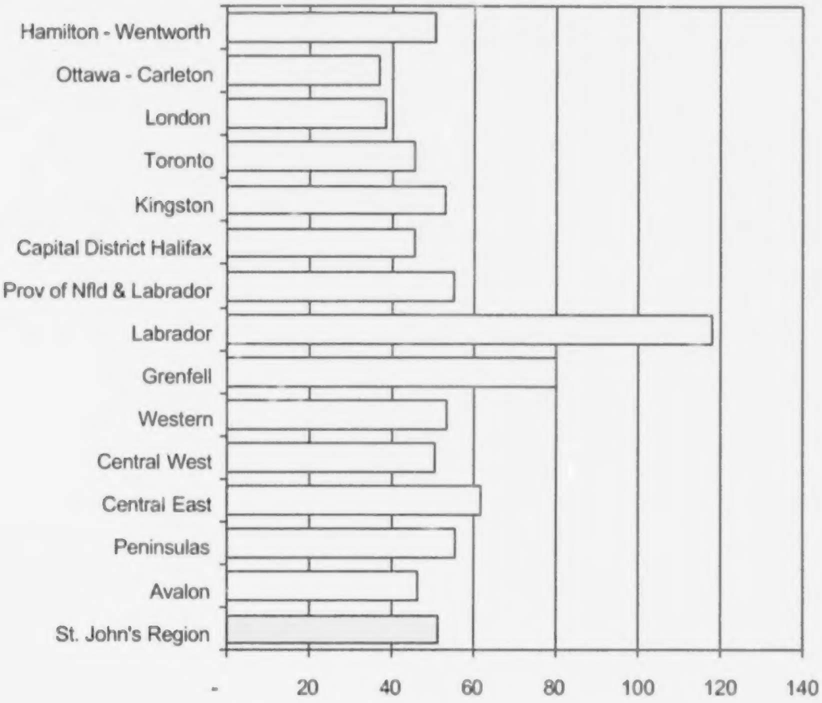
Exhibit 4.26 shows that the rates of admission for the residents of St. John's for avoidable hospitalization conditions is similar to the rates for the other academic health sciences centres. This is not surprising given the apparent similar primary care capacity (as measured by primary care physicians per population) in the St. John's region and the other academic health science centres.

Need for Expanded Provincial Health Services Research Capacity

A clearer understanding of the appropriateness of the high rates of hospital utilization in the St. John's region will require greater emphasis on the part of the HCCSJ to explicitly define indications for hospital admission and surgery, and greater capacity within the province to identify and examine utilization rates. This expanded health services research capacity could be created by expansion of the mandates of an existing research group, such as the Newfoundland and Labrador Centre for Health Information or the Newfoundland and Labrador Centre for Applied Health Research.

A potential model for such an organization is the Institute for Clinical Evaluative Sciences (ICES) in Ontario.

Exhibit 4.26
2000/2001 Standardized Rate of Admissions for Avoidable Hospitalization Conditions per 10,000 Population



HCCSJ Program Market Share

The HCCSJ is a major provider of hospital services to all of the residents of the province.

Exhibit 4.27
Percent of Hospital Separations for Residents of Region Provided by HCCSJ by Level of Care

Region	Level of Care				
	Primary	Secondar	Tertiary	Quaternar	Total
St. John's	98%	98%	99%	100%	98%
Avalon	41%	63%	92%	100%	52%
Pennisulas	31%	55%	90%	100%	45%
Central East	9%	19%	67%	94%	15%
Central West	6%	14%	57%	91%	11%
Western	4%	10%	44%	77%	8%
Grenfell	3%	11%	48%	94%	8%
Labrador	12%	31%	80%	93%	22%
Out of Province	31%	49%	88%	100%	42%
All Nfld and Lab Hospitalizations	44%	55%	81%	96%	51%

Exhibit 4.27 shows that the HCCSJ provides 51% of all inpatient and ambulatory procedure hospital separations for the residents of the province. The HCCSJ provides 96% of all Quaternary hospital care and 81% of all Tertiary hospital care in the province. The HCCSJ is the major provider of hospital care to the residents of the Avalon region. Even for Primary hospital care, 41% of the services used by Avalon region residents and 31% of the services used by Peninsulas region residents are provided not in their home region, but in HCCSJ.

The December 1999 publication of the Newfoundland and Labrador Centre for Health Information "My People Where, Hospital Separations by Residence for 1997/98" showed that the HCCSJ provided 54.3% of all inpatient and ambulatory procedure separations for the residents of the province. Thus it appears that the reliance of the population outside St. John's on the HCCSJ has actually decreased from 1998/98 to 2000/01.

Utilization by Patients from Outside Catchment Area

From the perspective of HCCSJ, 70% of hospital services (as measured by inpatient and ambulatory procedures) are provided for St. John's region residents. For Quaternary services, 51% of the HCCSJ activity is for non-residents of the St. John's region.

Exhibit 4.28
Source (Region of Residence) of HCCSJ
Patients by Level of Care

Region	Level of Care				
	Primary	Secondary	Tertiary	Quaternary	Total
St. John's	77%	67%	52%	49%	70%
Avalon	10%	11%	11%	9%	11%
Pennisulas	6%	9%	11%	9%	8%
Central East	2%	3%	4%	8%	2%
Central West	1%	3%	7%	7%	3%
Western	1%	3%	8%	8%	3%
Grenfell	0%	1%	2%	4%	1%
Labrador	1%	2%	3%	3%	2%
Out of Provinc	1%	1%	1%	2%	1%

To estimate the portion of HCCSJ operating expenses that are used to provide hospital services to the residents of other regions, we calculated the total inpatient and ambulatory RIW weighted cases for the patients of HCCSJ by region and by level of care. We then used the approximate HCCSJ average direct care cost per RIW weighted case of $3,172 to estimate the cost to HCCSJ of providing the care.

$62 Million Cost in HCCSJ to Provide Care for Non-Residents of Region

Exhibit 4.29 shows the results of this analysis. We estimate that the total cost to HCCSJ of providing hospital care for non-residents of the St. John's region is approximately $62 million.

Exhibit 4.29
Estimated HCCSJ Direct Cost of Inpatient and Ambulatory Procedure Care by Patient Residence and Level of Care

Region of Patient Residence	Primary	Secondary	Tertiary / Quaternary	Total	Primary/ Secondary Sub-Total
Unknown	$27,898	$28,205	$25,033	$81,136	$56,103
St. John's	$25,960,902	$50,521,357	$27,514,811	$103,997,069	$76,482,258
Avalon	$2,989,492	$9,242,156	$5,797,391	$18,029,039	$12,231,648
Peninsulas	$1,762,302	$6,508,403	$5,861,413	$14,132,119	$8,270,706
Central East	$501,169	$2,338,511	$3,230,376	$6,070,055	$2,839,679
Central West	$412,752	$2,654,262	$3,832,380	$6,899,394	$3,067,014
Western HCC	$471,289	$2,881,567	$4,037,044	$7,389,900	$3,352,855
Grenfell	$116,250	$659,809	$1,175,553	$1,951,612	$776,059
Labrador	$432,708	$2,114,724	$2,450,261	$4,997,693	$2,547,432
Out of Province	$333,352	$790,227	$1,487,507	$2,611,087	$1,123,579
Total	$33,008,113	$77,739,221	$55,411,770	$166,159,104	$110,747,335
Out of Region Sub-Tota	$7,019,313	$27,189,660	$27,871,926	$62,080,899	$34,208,973
Out of Region as % of Total	21%	35%	50%	37%	

Cost of Care for HCCSJ Primary Care/Secondary Care Patients from Outside St. John's Region

Thus, approximately 37% of the direct expenses for patient care at HCCSJ ($62 million) are for non-residents of the St. John's Region. Approximately $34 million of this expense is for non-residents coming to HCCSJ to receive Primary or Secondary care which might be more appropriately provided by a local hospital.

Cost of Providing Primary/Secondary Care at HCCSJ May Be Higher Than in Home Regions

We have not examined the cost per weighted case in the other regions in the province, but research elsewhere in Canada has found that average costs per weighted case are higher in academic health science centres than in community hospitals. This higher cost per weighted case is not limited the tertiary and quaternary activity but applies to primary and secondary care as well. Thus it may be that not only are residents of other regions seeking care at the HCCSJ that should be available in the hospitals within their own region, but the cost of providing that care may be higher in St. John's than it would be at home.

4.4 Quality of Care Data

The HCCSJ is a participant in the Hay/CIHI Annual Benchmarking Comparison of Canadian Hospitals study. The 2001 Draft Quality and Utilization Management Report was recently released. Quality of care indicators where the HCCSJ appeared to have results that were significantly different from the results for other Canadian teaching hospitals were:

- HCCSJ had the highest percent of deliveries performed via Caesarean section (27.2%) of all teaching hospitals.
- HCCSJ had the highest percent (49.4%) of mothers who have had a prior Caesarean section who were able to subsequently have a vaginal delivery (VBAC).
- The use of breast-conserving surgery for breast cancer patients at HCCSJ (44.1% of patients) was below the teaching hospital average of 49.9%.
- HCCSJ had a lower rate (11.7%) of transfer of stroke patients to inpatient rehabilitation than the teaching hospital average (15.5%).
- HCCSJ had a lower rate (6.3%) of transfer of knee replacement patients to inpatient rehabilitation than the teaching hospital average (15.2%).
- 31.6% of HCCSJ mental health inpatients are readmitted within 3 months (the teaching hospital average is 21.5%).
- In-hospital mortality rates following surgery are similar at HCCSJ to the teaching hospital average.
- HCCSJ surgical patients have a lower rate of documented AMIs following surgery (15.1 per 1,000 surgeries) than the teaching hospital average (22.7 per 1,000 surgeries).
- Elderly HCCSJ patients have a lower rate of documented decubitis ulcers (5.3 per 1,000 patients) than the teaching hospital average (8.7 per 1,000 patients).

4.5 Clinical Efficiency Opportunities

A key element of any acute care hospital's attempt to reduce expenditures is the identification of opportunities to reduce use of inpatient beds by shifting inpatient care to ambulatory care, by reducing in-process delays, and by discharging or transferring patients who no longer require acute care. To estimate the opportunities to reduce the use of inpatient days, the operational review established targets for use of ambulatory care and for length of stay based on demonstrated performance benchmarks from Canadian teaching hospitals.

Initial Length of Stay Analysis

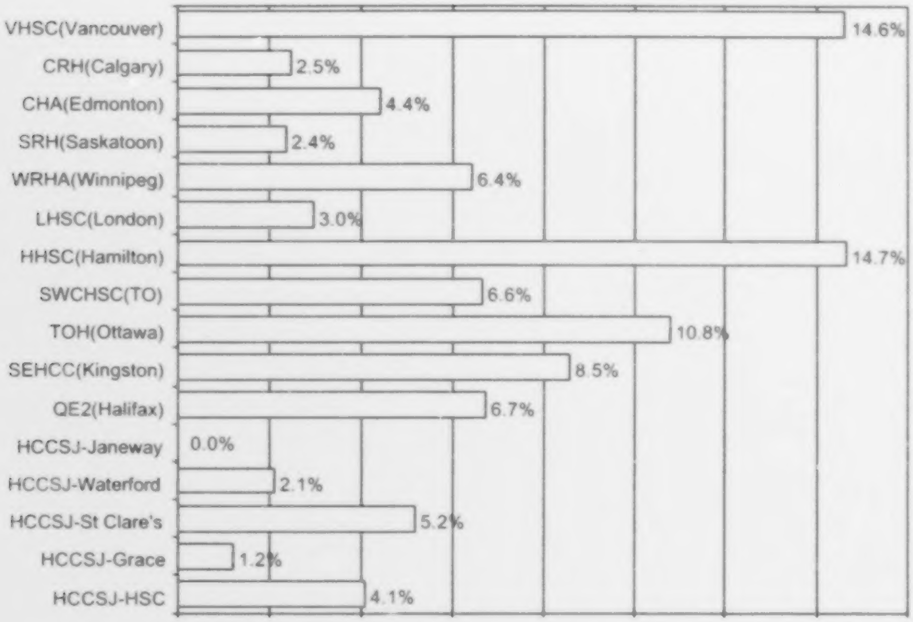
The initial length of stay analysis conducted for the project used the CIHI expected length of stay (ELOS). Each year CIHI calculates an expected length of stay for "Typical" patients. Typical patients are those who receive a full course of treatment in a single acute care hospital (i.e. not transfers) and who are not long-stay outliers, in-hospital deaths, or patients who sign themselves out against medical advice.

The CIHI ELOS is specific to a CMG, the patient age, and the complexity level (based on the number and nature of documented comorbid illness). The CIHI ELOS is equal to the average length of stay for the CMG, age, and complexity combination of all cases in the CIHI database in the prior year. Because the CIHI ELOS is based on all data in the CIHI database, including small rural and community hospitals, most teaching hospitals use a more aggressive length (i.e. shorter)) length of stay target for their internal utilization management activities.

Used CIHI Expected LOS for Initial Analysis

To compare the length of stay performance of the HCCSJ and other Canadian teaching hospitals with the CIHI ELOS we used data from the CIHI/HayGroup Annual Benchmarking study. We compared the actual inpatient days of care for "Typical" patients with the expected inpatient days of care, based on the CIHI ELOS. For the HCCSJ, forensic patients were excluded from the length of stay analyses. The actual inpatient days of care excluded the reported ALC days for each hospital. The exclusion of ALC days had the greatest impact on hospitals that report very high ALC rates, such as Vancouver Health Sciences Centre and Hamilton Health Sciences Centre.

Exhibit 4.30
Percent of Inpatient Days Reported as Alternate Level of Care by Hospital



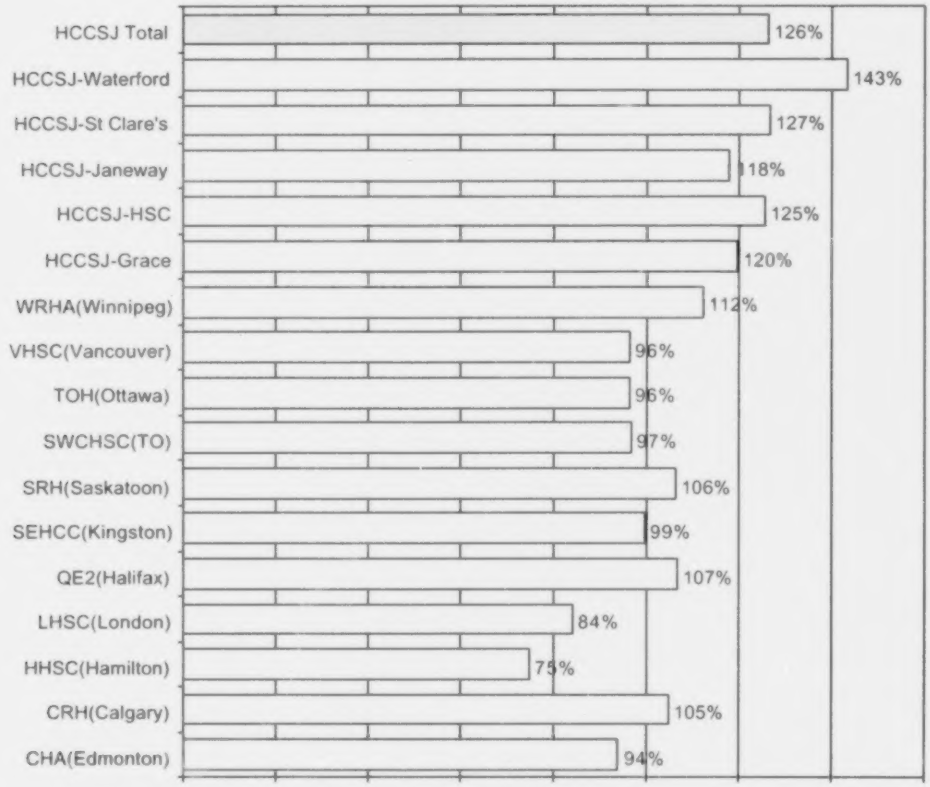
HCCSJ Had Longest LOS Relative to Expected LOS

For the Canadian teaching hospitals included in the analyses, the ratio of actual inpatient days to expected inpatient days ranged from a low of 75% (for Hamilton Health Sciences Centre) to a high of 125% (for HCCSJ). The next highest ratio, after HCCSJ was 112% (for the Winnipeg Regional Health Authority). For all of the Ontario teaching hospitals, the Vancouver Health Sciences Centre, and for the Capital Health Authority in Edmonton, the actual inpatient days were less than the CIHI expected inpatient days. Exhibit 4.31 shows the range in results.

Within the HCCSJ, the ratio of actual days to expected days for individual sites was:

Janeway	118%
St. Clare's	127%
Grace	120%
Health Sciences	125%

Exhibit 4.31
Ratio of Actual Days of Stay to CIHI Expected Days of Stay by Canadian Teaching Hospital



HCCSJ LOS Longest for Every Program

For every program, the HCCSJ length of stay was higher than the CIHI expected length of stay, than in any other Canadian teaching hospital included in the comparisons (Exhibit 4.32). The HCCSJ ratios of actual to expected length of stay by program were:

• Women's Health	120%
• Child Health	114%
• Mental Health	148%
• Cardiac Care	127%
• Surgery	120%
• Medicine	123%

Exhibit 4.32
Ratio of Actual Days of Stay to CIHI Expected Days of Stay by Program by Canadian Teaching Hospital

Hospital Site	Womens Health	Child Health	Mental Health	Cardiac Care	Surgery	Medical	Grand Total
CHA(Edmonton)	82%	99%	110%	101%	89%	99%	94%
CRH(Calgary)	91%	87%	132%	112%	104%	107%	105%
HHSC(Hamilton)	96%	70%	124%	75%	72%	63%	75%
LHSC(London)	98%	88%	100%	80%	78%	82%	84%
QE2(Halifax)	110%	82%	126%	106%	100%	116%	107%
SEHCC(Kingston	106%	96%	110%	94%	100%	97%	99%
SRH(Saskatoon)	117%	108%	96%	107%	106%	101%	106%
SWCHSC(TO)	98%	98%	111%	89%	97%	96%	97%
TOH(Ottawa)	103%	90%	109%	90%	97%	88%	96%
VHSC(Vancouve	85%	77%	106%	87%	96%	97%	96%
WRHA(Winnipeg	106%	111%	131%	107%	110%	115%	112%
HCCSJ-Grace	118%			135%	119%	111%	120%
HCCSJ-HSC	119%	100%	159%	124%	122%	123%	125%
HCCSJ-Janeway	122%	114%			115%	117%	118%
HCCSJ-St Clare's			153%	130%	118%	124%	127%
HCCSJ-Waterford			142%				143%
HCCSJ Total	120%	114%	148%	127%	120%	123%	126%

Hypothesis That Non-Residents Contribute to Longer HCCSJ Stay

One explanation, offered during interviews, for the long lengths of inpatient stay in HCCSJ, was that the high number of patients use HCCSJ but live outside the region have very long lengths of stay. To test this hypothesis, we separated those HCCSJ patients who were residents of the St. John's region from those who lived outside the region and compared the lengths of stay (against the CIHI ELOS) for the two groups.

St. John's Residents Have Shorter LOS, But Still Well beyond Expected

Patients from outside the St. John's Region, treated in HCCSJ, were found to have an average LOS 29% longer than the CIHI expected LOS. Residents of the St. John's Region, treated in HCCSJ hospitals, have an average LOS 25% longer than the CIHI expected LOS. Thus while there is a longer LOS for non-residents, it in no way explains the overall length of stay performance difference between HCCSJ and the other Canadian teaching hospitals.

Data Quality and Comprehensiveness Impacts Comparisons

Another factor that can impact the length of stay comparisons is difference in data capture (and comprehensiveness of data) between organizations. Later in this report we compare the distribution of CIHI complexity levels for HCCSJ with the other teaching hospitals. Also, the relatively low rate of ALC days in HCCSJ may reflect under documentation of when patients become ALC.

Alternative Approach to Clinical Efficiency Based on HayGroup/CIHI Benchmarking

The CIHI ELOS is based on all client hospitals (not just teaching hospitals), and ALC day recording (which may be incomplete at HCCSJ) impacts it. Because of this, the project Steering Committee agreed that the consultants should use the alternative clinical efficiency methodology used for the CIHI/HayGroup annual benchmarking database.[58]

Targets to reduce the use of inpatient beds through shifting inpatient care to ambulatory procedures and reducing length of stay were calculated based on 2000/01 data for the selected Canadian teaching hospitals.

Separate targets were established for each CMG, complexity, and patient age combination, where there were sufficient hospitals that had at least 30 patients of that type. Targets were based on first quartile, i.e. the performance level where one quarter of hospitals (with sufficient volume) were more aggressive, and three-quarters less aggressive.

To make the ALOS data more comparable, the analysis simulated the inpatient ALOS of each hospital were it to have achieved the target % of cases provided as ambulatory care. The analysis simulated the shifting of inpatient cases to ambulatory care to achieve the target % ambulatory care. Only 1, 2 or 3-day stay cases were considered as candidates to move to ambulatory procedures. The length of stay for each patient category was re-calculated after simulating the shift to ambulatory procedures to reflect LOS of the cases appropriately cared for as inpatients. These residual cases have a longer ALOS.

The LOS analyses were based on the total length of stay (including ALC days) so that the impact of variation in comprehensiveness of ALC recording could be removed.

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[58] The clinical efficiency calculation methodologies are described in more detail in the CIHI/HayGroup Benchmarking Comparison of Canadian Hospitals 2001 Technical Report provided to the HCCSJ.

HCCSJ Estimated Opportunity to Reduce Inpatient Day Use Largest of All Teaching Hospitals

Using the first quartile targets we calculated that the opportunity to reduce use of inpatient days is larger (in percentage terms) at HCCSJ than in any other Canadian teaching hospital. Exhibit 4.33 shows that in 2000/01, if HCCSJ had achieved the first quartile targets, 24.6% fewer inpatient days would have been required.

Ambulatory Procedure Opportunities

The ambulatory procedure targets suggest that 11.4% of the actual HCCSJ inpatient cases in 2000/01 could have been shifted to ambulatory care, thereby reducing use of inpatient days by 1.9%. The length of stay targets suggest that a further 22.7% of inpatient days could have been reduced through reductions in length of stay.

Exhibit 4.33
Estimated % Reduction in Inpatient Days through Achievement of First Quartile Targets by Hospital

Hospital Site	% IP Cases to Shift to SDS	% Days Saved Via Shift to SDS	% Days Saved Via LOS Redn	Total % Days Saved	Equiv. Bed Red'n @ 90%
Calgary RHA	8.7%	1.7%	11.3%	12.9%	
CHA Edmonton	4.7%	0.9%	4.7%	5.6%	
Hamilton HSC	3.2%	0.5%	4.3%	4.7%	
Kingston	6.3%	1.3%	11.0%	12.3%	
London HSC	5.5%	1.0%	4.4%	5.5%	
McGill	6.1%	1.0%	11.8%	12.8%	
Ottawa Hosp	5.1%	0.8%	9.1%	9.9%	
QE2 Halifax	10.2%	1.4%	12.1%	13.5%	
Saskatoon RH	11.8%	2.4%	13.0%	15.4%	
Sunnybrook	5.3%	0.9%	9.8%	10.7%	
Vancouver HHSC	11.2%	1.4%	13.5%	14.9%	
Winnipeg RHA	6.9%	0.9%	19.9%	20.9%	
HCCSJ - Grace	13.5%	3.7%	25.6%	29.3%	8
HCCSJ - HSC	10.4%	1.9%	23.9%	25.8%	96
HCCSJ - Janeway	15.0%	3.2%	18.9%	22.2%	19
HCCSJ - St Clare's	11.4%	1.7%	23.2%	24.9%	50
HCCSJ - Waterford	1.4%	0.1%	18.7%	18.8%	15
HCCSJ - Total	11.4%	1.9%	22.7%	24.6%	189

Opportunity Equivalent to 189 Beds

To show the magnitude of this estimate of opportunity to reduce the use of inpatient days, we have translated the bed days to beds, using an average occupancy of 90%. The total equivalent reduction in acute care beds is 189 beds. The reduction in inpatient days could result in the closure of beds and maintenance of current occupancy rates, or a combination of reduction in occupancy and bed closure. But in every case, ***HCCSJ would be providing the same number of episodes of care, just using fewer patient days to provide this care.***

Opportunities by Program

Exhibit 4.34 shows the impact of the clinical efficiency targets on HCCSJ by program. The estimate of the potential percent reduction in use of inpatient days varies from 17.9% for the Child Health program (with 5.4% achieved through shifts to ambulatory procedures) to 34.6% for the Women's Health program.

Exhibit 4.34
Estimated % Reduction in HCCSJ Inpatient Days through Achievement of First Quartile Targets by Program

Program	Cases to Shift to SDS	% IP Cases to Shift to SDS	% Days Saved Via Shift to SDS	% Days Saved Via LOS Redn	Total % Days Saved	Equiv. Beds to Save @ 90%
Cardiac Care	92	2.4%	0.4%	22.0%	22.4%	28
Child Health	799	25.6%	5.4%	12.5%	17.9%	9
Medical	753	11.0%	2.2%	20.2%	22.4%	40
Mental Health	20	1.1%	0.1%	26.0%	26.1%	38
Surgery	1,274	20.7%	3.2%	21.0%	24.1%	46
Womens Health	230	3.8%	1.5%	33.1%	34.6%	29
Grand Total	3,168	11.4%	1.9%	22.7%	24.6%	189

Exhibit 4.35 shows the Case Mix Groups with the greatest opportunity to reduce use of inpatient days by using ambulatory procedures instead of admission.

Exhibit 4.35
Case Mix Groups with Greatest Opportunity to Reduce Use of Inpatient Days through Shift to Ambulatory Procedure

Case Mix Group		Current % SDS	Target % SDS	IP Cases to Shift to SDS	% of IPCases Shift to SDS	Days Saved via SDS Shift	% of Days Saved Via SDS Shift
93	TONSILL/ADENOIDECTOMY (MNRH)	0.8%	95.4%	596	95.3%	623	90.4%
294	ESOPH/GASTRO/MISC DIGEST DIS	74.4%	81.1%	243	26.2%	375	8.5%
512	OTH TRANSURETH PROC/BX(MNRH)	29.9%	75.6%	163	65.3%	284	35.3%
317	LAPAROSCOPIC CHOLECYSTECTOMY	21.7%	63.3%	188	53.2%	225	20.1%
269	BILATERAL HERNIA PROCEDURES	38.6%	73.9%	113	57.6%	186	26.0%
579	MAJ UT/ADNEXAL PROC NO MALIG	34.3%	43.8%	82	14.5%	167	6.8%
91	NASAL PROCEDURES (MNRH)	45.5%	96.4%	97	93.3%	145	88.6%
846	AFTERCARE FOLLOW SURGERY/TX	90.5%	98.5%	102	84.6%	132	49.1%
281	G.I. HEMORRHAGE	35.1%	53.1%	56	27.8%	123	9.7%
428	BRST PR X BX/LOC EXC NO MALIG	22.5%	64.6%	38	54.3%	92	36.5%
536	URINARY OBSTRUCTION (MNRH)	90.0%	94.1%	56	40.6%	83	16.8%
510	TRANSURETHRAL PROSTATECTOMY	0.9%	27.2%	30	26.5%	79	16.8%
581	GYN RECONSTRUCTIVE PROCEDURES	1.1%	16.7%	28	15.7%	71	7.8%
375	MINOR UPPER EXTREMITY PROC	40.5%	73.4%	36	55.2%	70	30.7%
Other CMGs		41.5%	44.8%	1,340	5.6%	2,088	0.9%
HCCSJ Total		45.2%	51.4%	3,168	11.4%	4,743	1.9%

Virtually No Use of Ambulatory Tonsillectomy/ Adenoidectomy Procedures

The most significant difference between HCCSJ and the peer teaching hospitals is the HCCSJ reliance on the provision of tonsillectomy/adenoidectomy surgery on an inpatient basis. In 2000/2001, less than 1% of tonsillectomy/adenoidectomy procedures were performed as outpatients at HCCSJ. The first quartile target, based on actual performance in other Canadian teaching hospitals, is 95% ambulatory. If HCCSJ achieved this target, then in 2000/2001 596 inpatient procedures could have been done as ambulatory procedures.

A review of the clinical literature regarding the safety of ambulatory tonsillectomy procedures found that the procedure was safe with appropriate recovery room supervision[59].

Achieving Ambulatory Procedure Targets Only Reduces 14 Beds

In total, an additional 3,168 inpatient procedures could be have been done on ambulatory basis. The impact on use of inpatient days and beds would be relatively small (14 beds) due to short inpatient length of stay of the cases considered candidates for the move to outpatient procedure.

LOS Reduction Opportunities

Exhibit 4.36 shows the Case Mix Groups with the greatest opportunity to reduce use of inpatient days through achievement of the first quartile length of stay targets.

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[59] Rakover Y, Almog R, Rosen G., The risk of postoperative hemorrhage in tonsillectomy as an outpatient procedure in children. International Journal of Pediatric Otorhinolaryngology 1997 Jul 18;41(1):29-36

Exhibit 4.36
Case Mix Groups with Greatest Opportunity to Reduce Use of Inpatient Days through Reduction of Length of Stay

Case Mix Group		Initial IP Cases (after SDS shift)	% ALC	Initial LOS	Target LOS	Days to Save @ Target	% of Days Saved Via LOS Redn
777	SCHIZOPHREN/PSY NO ECT/AXIS3	267	1.4%	31.04	23.29	2,070	25.0%
766	DEPRESS MOOD DIS NO ECT/AX3	227	0.0%	27.86	18.83	2,050	32.4%
189	PTCA NO COMP CARD CONDITION	383	0.0%	7.54	3.58	1,516	52.5%
609	VAGINAL DEL W COMPLICATING DX	623	0.2%	5.01	2.72	1,424	45.6%
648	NEO,WT>2500G,NORMAL NEWBORN	1,401	0.0%	2.51	1.57	1,322	37.4%
294	ESOPH/GASTRO/MISC DIGEST DIS	686	3.5%	5.91	3.99	1,313	29.7%
13	SPEC CEREBROVASC DISORD(XTIA)	282	16.0%	16.24	11.70	1,280	28.0%
253	MAJOR INTESTINAL/RECTAL PROC	300	3.6%	15.15	11.01	1,240	27.3%
792	ADJUSTMENT DISORDERS(MNRH)	254	0.8%	12.57	7.92	1,182	37.0%
764	DEPRESS MOOD DISORD WITH ECT	74	0.9%	52.91	38.10	1,095	28.0%
1	CRANIOTOMY PROCEDURES	139	4.9%	18.95	11.64	1,016	38.6%
143	SIMPLE PNEUMONIA & PLEURISY	463	10.4%	8.16	5.99	1,006	26.6%
222	HEART FAILURE	402	5.9%	10.19	7.71	993	24.2%
All Other CMGs		19,161	3.7%	10.07	7.99	39,799	20.2%
HCCSJ Total		24,661	3.7%	10.05	7.72	57,308	22.7%

For some of the teaching hospitals the estimated length of stay reduction potential is less than the reported ALC days. This suggests that the greatest opportunities to reduce use of inpatient days in these facilities are dependent on enhancing the access to and/or capacity of external health services.

HCCSJ Opportunities appear to be Primarily Internal

For HCCSJ, the estimated LOS reduction potential (22.7% of days) is much larger than the reported ALC days (<5%). This suggests that the opportunities at HCCSJ are primarily internal, a finding that is consistent with the Parfrey study results.[60]

Comparability of Teaching Hospitals by Level of Care

Exhibit 4.37 shows the percent distribution of RIW weighted cases by level of care for each of the teaching hospitals.

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[60] Parfrey P. et al, "The Efficiency of Utilization of Acute Care Beds in Newfoundland and Labrador – Summary Report: Comparison 1995 & 1999, The Health Care Corporation of St. John's", 2000, Clinical Epidemiology Unit, Memorial University of Newfoundland.

Exhibit 4.37
Percent Distribution of Teaching Hospital Weighted Cases by Level of Care

Hospital	Primary	Secondary	Tertiary / Quaternary
Calgary RHA	22%	43%	35%
CHA Edmonton	20%	42%	38%
Hamilton HSC	9%	38%	53%
Kingston	14%	42%	44%
London HSC	10%	38%	52%
McGill	11%	38%	51%
Ottawa Hosp	17%	46%	37%
QE2 Halifax	11%	46%	43%
Saskatoon RH	22%	50%	28%
Sunnybrook	14%	39%	47%
Vancouver HHSC	12%	47%	40%
Winnipeg RHA	19%	50%	31%
HCCSJ	20%	46%	34%
Grand Total	16%	44%	40%

The HCCSJ has a higher percent of inpatients categorized as Primary and a lower percent categorized as Tertiary/Quaternary than most other teaching hospitals.

Documentation of Complexity Can Impact Comparisons

Contributing factors to the low percent of HCCSJ activity categorized as Tertiary or Quaternary include the high rates of MNRH cases (thus diluting the overall mix) and incomplete documentation of the disease burden of patients in the medical record (leading to incomplete capture of additional diagnoses in the patient abstract submitted to CIHI). Exhibit 4.38 shows the percent distribution of inpatient cases at each teaching hospital by complexity level.

Complexity Not Applicable to Obstetrical and Mental Health

Complexity levels are not assigned to Obstetrical, Newborn/Neonate, and Mental Health patients, since the impact of patient complexity is already captured in the CMG assignment. This means that incomplete capture of complexity diagnoses cannot be an explanatory factor for the high estimated opportunities to reduce use of inpatient days for the Mental Health and Women's Health programs.

Exhibit 4.38
Percent Distribution of Teaching Hospital Inpatient Cases by CIHI Complexity Level

Hospital Site	CIHI Complexity Level				% of All Cases Not Assigned Complexity	% of Cases Serious or Life Threatening
	No Complexity	Chronic Illness	Serious Illness	Life Threatening Illness		
Calgary RHA	72%	13%	8%	7%	35%	15%
CHA Edmonton	73%	12%	7%	7%	35%	14%
Hamilton HSC	43%	19%	18%	20%	19%	38%
Kingston	68%	15%	9%	8%	26%	17%
London HSC	61%	16%	12%	12%	20%	23%
McGill	54%	22%	14%	10%	25%	24%
Ottawa Hosp	66%	12%	10%	12%	38%	21%
QE2 Halifax	78%	11%	6%	5%	4%	11%
Saskatoon RH	85%	8%	4%	3%	26%	7%
Sunnybrook	70%	16%	7%	6%	30%	13%
Vancouver HHSC	77%	12%	6%	5%	10%	11%
Winnipeg RHA	77%	12%	6%	5%	36%	11%
HCCSJ	80%	11%	5%	4%	26%	8%
Grand Total	70%	14%	8%	8%	28%	16%

HCCSJ has the 2nd highest percent of those patients for whom CIHI established a complexity level falling in the "No Complexity" category. It also has the 2nd lowest percent of inpatients falling in the "Serious Illness" or "Life Threatening Illness" categories.

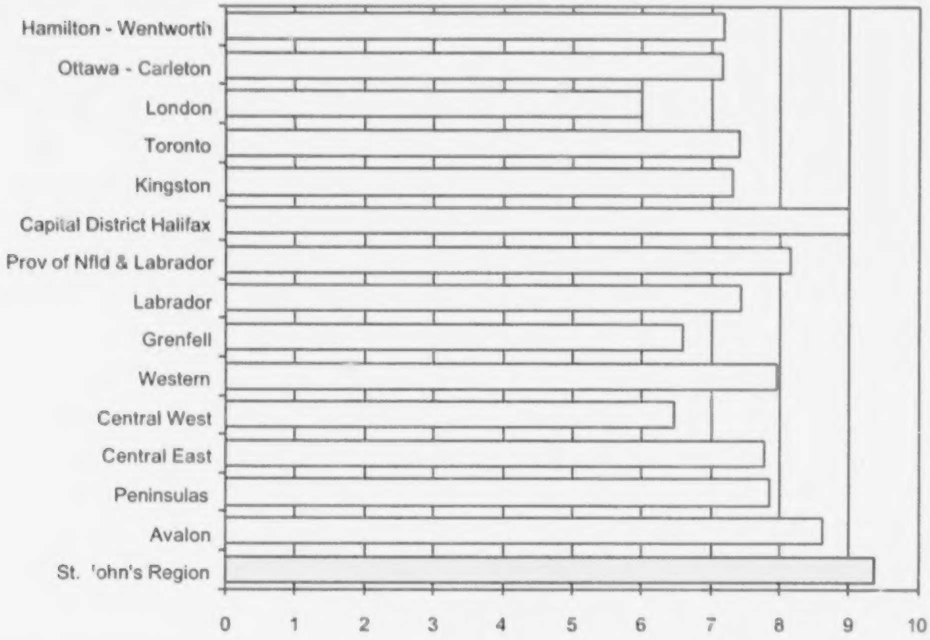
The length of stay comparisons conducted for this project are based on CMGs, patient age, and documented complexity. The low complexity for HCCSJ patients may reflect an overall less complex inpatient population (as evidenced by the high rates of admission of patients who would be treated on an ambulatory basis in other teaching hospitals), but may also reflect a lack of comprehensiveness of documentation and capture of complexity diagnoses on the medical records.

Calculation of Overall LOS for Regions

To test whether the apparently long lengths of stay in HCCSJ can be explained by inappropriately low documentation of complexity, we also examined length of stay for the residents of the St. John's region (almost all of whom are treated in HCCSJ).

We calculated the average acute care inpatient length of stay for all residents of St. John's and for the comparator regions, after standardizing for age and gender. Because the length of stay comparisons were not based on assignment of complexity levels, we hypothesized that the length of stay for St. John's residents would be similar to that found in the other academic health science centres, and less than that in most other Newfoundland and Labrador regions. Exhibit 4.39 shows the results of the comparison.

Exhibit 4.39
Average Length of Stay for Hospital Admissions for Residents of Region



Without Complexity Adjustment, St. John's Patients Have Longest LOS

Even without adjustment for reported patient complexity, the average length of stay for residents of the St. John's region is the longest of all regions. The St. John's region also has a high MNRH admission rate, and low use of ambulatory procedures, both of which would be expected to artificially reduce the total length of stay by inclusion of short-stay inpatients in the average. There is strong evidence that opportunities to reduce use of inpatient days at [illegible] CSJ are substantial, in spite concerns regarding data comprehensiveness.

External Barriers to Reducing Use of Inpatient Days

During interviews, external barriers to reducing use of inpatient days were identified. In many instances, interviewees stated that use of targets based on teaching hospitals in other provinces was unreasonable because the external health care infrastructure in the province of Newfoundland and Labrador was under-resourced compared to other provinces.

While it is beyond the scope of this project to assess the operations and effectiveness of other components of the health system, we have attempted to collect data to support comparative assessment of relative capacity of the health sectors on which HCCSJ is most dependent if it is to achieve optimal use of inpatient acute beds.

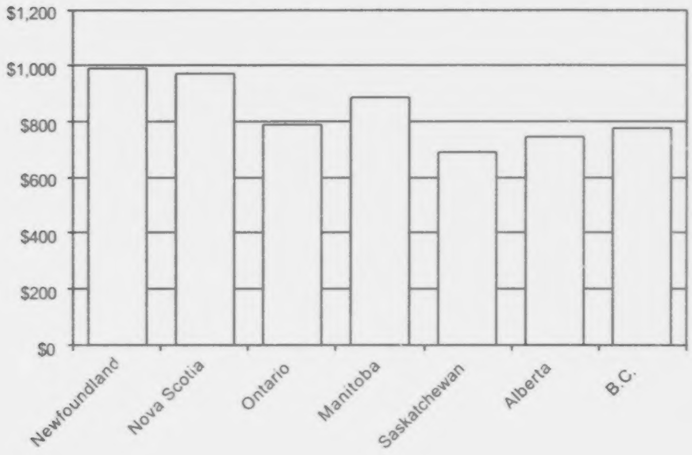
Number of primary care physicians in St. John's comparable to comparison communities

The ratio of primary care physicians to population was previously presented in Exhibit 4.15 and was shown to be similar to the ratio in other academic health science centres.

Newfoundland has Highest Per Capita Spending on Hospitals

Exhibit 4.40 shows that the 1999 per capita spending on hospitals was highest in Newfoundland, more than $200 per capita above the spending in the provinces exhibiting the lowest use of inpatient days (Ontario, Alberta, and British Columbia).

Exhibit 4.40
Per Capita Spending on Hospitals by Province (CIHI 1999 Data)

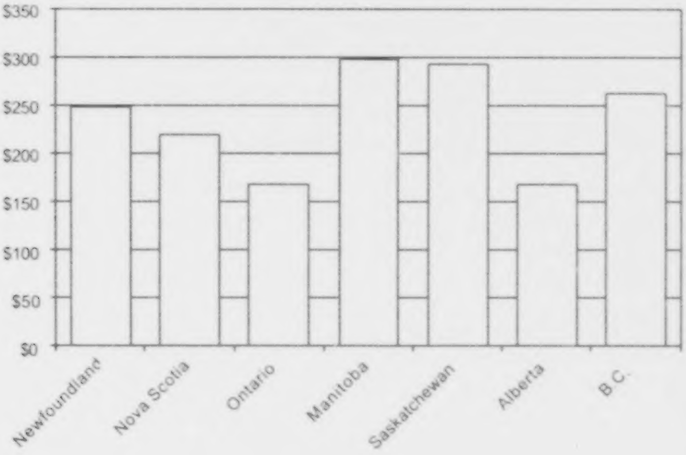


Average Nursing Home Beds per Population

In 2000, the ratio of nursing home beds per population over 75 years old in Newfound was approximately equal to the national average of 101. The corresponding ratio in Ontario was 88. In Ontario the higher rate of ALC days can be attributed to both more comprehensive capture of ALC data and the long delays in discharge of patients who require long-term care beds.

Exhibit 4.41 shows the 1999 expenditures per capita for "other institutions" by province. Long-term care facilities are included in the "other institutions" category. Per capita expenditures for other institutions in Newfoundland are higher than in Ontario and Alberta and slightly lower than in British Columbia.

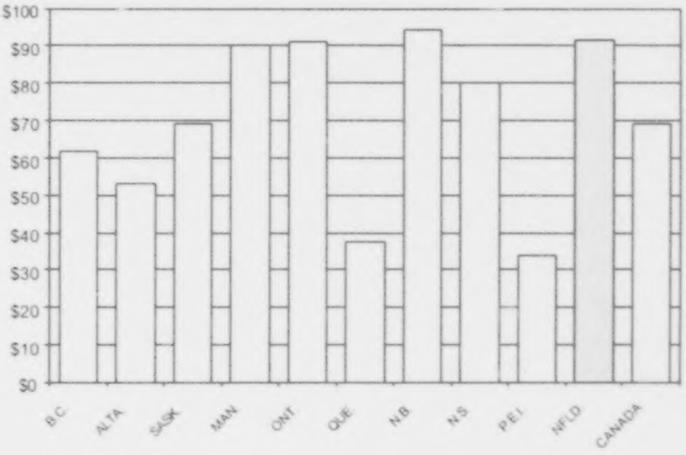
Exhibit 4.41
Per Capita Spending on Other Institutions by Province
(CIHI 1999 Data)



High Per Capita Expenditure on Home Care

Exhibit 4.42 shows the most current national data on home care spending per capita.

Exhibit 4.42
Per Capita Spending on Home Care by Province
(Health Canada 1997/98 Data)



In 1997/98, per capita spending on home care in Newfoundland was 2nd highest in Canada, behind only New Brunswick, and very slightly ahead of Ontario.

No Evidence That Newfoundland Non-Hospital Health System Substantially Under-Resourced

Collectively, these comparisons suggest there is no validity to the argument that the non-hospital health care infrastructure is substantially under-resourced in Newfoundland compared with the other provinces where teaching hospitals exhibit much shorter acute care lengths of stay.

Potential Operating Cost Savings Through Clinical Efficiency

The estimated percentage of inpatient days that might be reduced if clinical efficiency targets are achieved is higher than the estimate of the percentage of hospital costs that might be saved. The lower percentage cost savings is because the days that are saved through achieving clinical efficiencies tend to be days saved at the end of a stay (which are lower cost days). We have simulated the impact on weighted cases of the reduction in inpatient days by assuming that the first days saved are ALC days and that any additional days saved are at the CIHI "routine and ancillary per diem rate". This is lower than the average cost/rate per day of the inpatient stay for the case type. We have also included the impact of the additional RIW weighted cases that must be added to support increased ambulatory procedure volumes.

Workload in this analysis is measured as equivalent weighted cases. The days that might be saved by achieving the target rates of clinical efficiency have been converted to a measure of equivalent weighted cases. The estimated potential reduction in workload has been calculated as equivalent to 7,443 RIW-weighted cases, or 14.5% of the actual RIW-weighted cases.

Exhibit 4.43
Estimated RIW Reduction and Associated Clinical Efficiency Cost Savings Potential by HCCSJ Site

HCCSJ Site	RIW Savings	% of RIWs Saved	Direct Cost per Wtd Case	Resulting Savings
Grace	263	12.3%	$ 2,705	$ 711,870
HSC	3,827	14.0%	$ 2,705	$ 10,352,990
Janeway	842	15.1%	$ 5,168	$ 4,349,808
St Clare's	2,090	15.5%	$ 2,705	$ 5,654,708
Waterford	453	16.1%	$ 2,705	$ 1,224,883
Total	7,475	14.6%	$ 2,982	$ 22,294,259

Estimated Savings of $22 Million at Clinical Efficiency Targets

At the HCCSJ direct cost per RIW-weighted case values for 2000/01, the total potential savings from reduction in use of inpatient days are estimated to be approximately $22.3 million, based on fiscal year 2000/2001 data.

Investment in Ambulatory Clinic Capacity

Lack of ambulatory clinic availability was identified as a barrier to achieving reductions in length of stay and admissions. In 2000/2001, the HCCSJ had a ratio of 3.17 ambulatory clinic visits (excluding ER) per RIW weighted-case. The average for the teaching hospital comparators was 3.55 and the first quartile ratio was 3.73 visits per RIW weighted-case.

If the volume of ambulatory clinic visits at HCCSJ were increased to match the first quartile ratio of visits per RIW weighted-case, this would have required an increase of 29,129 ambulatory clinic visits. In 2000/2001, the average total cost per ambulatory clinic visit at HCCSJ was $62.20 and the teaching hospital average was $68.93. If the 29,129 additional visits were added at the teaching hospital average cost per visit, then the additional investment in ambulatory clinics at HCCSJ would be $1,812,000.[61]

While additional ambulatory clinic capacity will assist the HCCSJ in achieving the admission avoidance and length of stay reduction targets, it is not necessarily a prerequisite to doing so. For example, the Hamilton Health Science Centre has a ratio of 3.03 visits per RIW weighted-case (lower than HCCSJ) but is the 2nd most efficient comparator hospital, in terms of conservable days. The 3rd most efficient hospital, the Ottawa Hospital, has the lowest ratio of visits per RIW weighted-case at 1.78.

Estimated Timing of Savings and Investments

The calculated potential savings through clinical efficiency improvement is $22.3 million. This could be achieved if the first quartile targets for use of ambulatory procedures and length of stay could be reached in all programs. Because of issues with CIHI data comprehensiveness, accuracy, and comparability, and potential interaction of clinical and operational efficiency savings, we have used a reduced savings target of $15.6 million, or 70% of the calculated opportunity.

We estimate that 50% of the clinical efficiency savings could be achieved in the first year, accompanied by further investments in development of the utilization management infrastructure and selected initiatives to expand ambulatory clinic capacity. In the second year, the remainder of the clinical efficiency savings should be achieved, and there would be further investment in expanding ambulatory clinics and supporting utilization management. One element of the investment in utilization management should be the establishment of a centralized decision support function for the Corporation, as recommended earlier in this report.

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[61] HCCSJ MIS data reported 162,946 ambulatory clinic visits (excluding ER visits). However, the published HCCSJ annual activity summary for 2000/2001 reports 304,145 ambulatory clinic visits. If the published volume was used for the analysis, then the resulting visits per weighted-case would be above the first quartile ratio and no increased investment in ambulatory clinic capacity would be recommended.

The CIHI average length of stay should be used as the target length of stay for the first year, except for the Mental Health program, where the CIHI/HayGroup Benchmarking study lengths of stay should be used. Following reduction of length of stay in the first year, the CIHI/HayGroup Benchmarking study first quartile length of stay should be used as the target.

Exhibit 4.43

Proposed Timing of Annual Clinical Efficiency Savings and Investments (Relative to Prior Year Annual Expenditures)

Fiscal Year	Clinical Efficiency Savings	Ambulatory Clinic Investment	Utilization Management Investment	Net Savings
2002/03	$ 7,800,000	$ 400,000	$ 300,000	$ 7,100,000
2003/04	$ 7,800,000	$ 860,000	$ 200,000	$ 6,740,000
Total	$ 15,600,000	$ 1,260,000	$ 500,000	$ 13,840,000

The estimated savings and investments shown above are all expressed as changes in operating costs from the prior year. For example, the $7.8 million clinical efficiency savings in the first year would continue in the second year, and an additional $7.8 million in clinical efficiency savings (on top of the $7.8 million in the first year) could be achieved. Similarly, the $300,000 investment in utilization management related activities in the first year would continue in the second year, but be increased by a further $200,000.

No Impact of Reduced Utilization Rates or Repatriation Included in Savings Estimates

There is an opportunity to further reduce the use of inpatient beds by reducing the high hospital utilization rates in the region, We have not included an estimate of the potential savings associated with this in the above savings calculation. Also, we have also not included any potential impact of repatriation of patients to hospitals in their home regions for Primary and Secondary hospital care.

It is recommended that:

(35) The HCCSJ and the Department of Health and Community Services should sponsor a 3rd party clinical review of the medical necessity of admissions to the HCCSJ medicine, cardiac, mental health and child health programs

(36) The HCCSJ, in conjunction with the Department of Health and Community Services should identify strategies to reduce the reliance of non-residents of the region on HCCSJ for Primary and Secondary hospital care.

(37) The HCCSJ should establish clinical efficiency targets for each patient category, based initially on the CIHI expected lengths of stay, and then on the CIHI/HayGroup teaching hospital first quartile performance.

4.6 Utilization Management Processes

Three of the eight guiding principles for the HCCSJ, established by the Board, focus on accountability and an evidence-based approach to ensuring effectiveness and efficiency of the Corporation's services:

- Ensure the Health Care Corporation, in partnership with other health care providers, delivers comprehensive evidence-based health care services for individuals and groups patients/clients while providing both the continuum and continuity of care.
- Be accountable to government and the public for the quality of health care and the appropriate and efficient use of public funds.
- Evaluate the effectiveness and efficiency of the Health Care Corporation's services.

It was in this context of this commitment to accountability and reliance on evidence to support decision making that we reviewed utilization management processes in the Corporation.

In the Canadian Council on Health Facilities Accreditation Report of Accreditation, based on the survey completed in October 2001, highlighted the need for improved utilization management capability at the HCCSJ:

"A comprehensive utilization management initiative is required to ensure prudent and appropriate use of limited clinical resources including resolving the backlog of inpatient admissions in emergency, appropriateness of diagnostic testing, and increased pre-admission clinic utilization". (Page 16).

HCCSJ rated their performance with respect to ability to evaluate its services on an ongoing basis as 5 (good), while the surveyors' rated it as 3 (fair). The surveyors' commented that "the organization continues to be challenged to ensure appropriate use of limited health care resources" and that "utilization issues in key clinical areas are disrupting the quality and efficiency of patient care in the Corporation". (Page 18).

Structure

A Utilization Manager reports to the Director, Quality Initiatives. Utilization management initiatives are not standardized across programs and some programs have created their own utilization coordinators (e.g. Cardiac Care, Mental Health).

In September 2001, a HCCSJ physician was hired as a part time (2 days per week) utilization management physician. His initial activities have included supporting the implementation of the expected date of discharge pilot project, review of diagnostic imaging utilization, critical care appropriateness review, and analysis of reliance of non-region residents on HCCSJ.

Until recently, the HCCSJ Corporate Utilization Management Committee (CUMC), a standing committee of the MAC, had primary responsibility for monitoring utilization activities. The CUMC reported both to the Corporate Quality Initiatives (QI) Committee and to the MAC.

Early in 2001 the Corporate Utilization Management Committee (CUMC) was disbanded. Utilization management was added to the mandate of the Corporate QI Committee. It was felt that the CUMC focussed on issues related to the medical and surgical programs, to the exclusion of other programs. The chiefs of the Medicine and Surgery clinical programs were members of the CUMC. Other programs were either not represented, or could be represented by their administrative program director.

The Corporate QI Committee meets 9 times a year and reports to the Board Quality Initiatives (QI) Committee. The Board QI Committee also meets 9 times per year.

The responsibilities of the Corporate QI Committee include monitoring and advising on UM strategies, guiding risk management, supporting development of performance measurement, reviewing occurrences, and following up on accreditation recommendations.

Each Corporate QI Committee lasts from two to two and a half hours. The first 45 minutes is allocated to a report from the Director of Quality Initiatives that includes Quality Initiatives, Risk Management Issues, Utilization Management Issues, and Accreditation. The Risk Management report provides detail regarding individual statements of claim, discoveries, and discontinuances. Much less detailed information is provided regarding utilization. The remainder of the meeting is devoted to presentation of Quality Initiatives Reports for individual programs and services (each area presents based on a pre-defined rotating schedule).

The Corporate QI Committee is working on developing a standardized quarterly utilization management report.

Integrating utilization management into the QI committee has diluted the corporate committee emphasis on utilization management.

While we normally would support combining quality management and utilization management structures and processes, it appears that rolling utilization management into the QI committee has diluted the emphasis on utilization management at the corporate committee level. Later we also comment on the impact on medical staff involvement of the removal of the UM committee as a standing committee of the MAC.

The Board QI Committee is described later in this section.

Processes

Emphasis on utilization management is relatively new, since the initial focus of the Corporation was to make the merger work and to support new construction and building closures. The HCCSJ Quality Initiatives Program has established a Utilization Management Two-Year Plan to help "ensure efficient, effective and appropriate use of the HCCSJ's resources. The key objectives for the plan are:

- Improve the flow and availability of beds and services in the Corporation
- Coordinate and improve discharge planning in the Corporation
- Reduce practice variation and bring the inpatient LOS in line with national norms
- Minimize any reduction in clinical services necessitated by funding shortfalls

- Ensure complete and appropriate documentation and abstracting of data

We support continued emphasis on utilization management and implementation of the initiatives identified in the two-year plan and have recommended an increase in expenditures on utilization management in order to achieve the significant clinical efficiency savings opportunities.

Utilization management effectiveness should also be enhanced by the establishment of a centralized decision support function for the Corporation (previously recommended), which will facilitate access to, and integration of, clinical, financial, and statistical information.

In late 2001 HCCSJ pilot tested an expected date of discharge (EDD) project, where for admissions on selected medical units, an expected date of discharge was concurrently determined (based on the CIHI national average LOS) and indicated on the medical record. If a patient stayed longer than the expected LOS, then a flag was placed on the chart indicating the EDD had passed, and requesting a reassessment by the physician.

The pilot project was successful, not only because it helped reduce LOS, but also because it highlighted for the physicians the implications of inadequate documentation on the medical record of all of the relevant diagnoses for each patient.

An evaluation of the EDD project has been completed and HCCSJ recently approved expansion of the EDD process to all of the Medicine and Mental Health programs.

The expected day of discharge (EDD) project using the CMG grouper should be extended to all services

The expected day of discharge (EDD) project using the CMG grouper should be extended to all services. Instead of EDD, an actual discharge order should be written for the projected day. This can always be cancelled in the event of unforeseen circumstances or complications.

The discharge planning steering committee has also established an action plan "to ensure the development, implementation, and evaluation of a Discharge Planning Model". This plan identifies specific actions, accountabilities, and target dates for completion. Initiatives include the development of a standard orientation presentation regarding the discharge planning process, an educational resource for physicians regarding community health resources, and the addition of explicit information regarding discharge expectations to patient information booklets.

Compared to most Canadian teaching hospitals there has not been a great deal of development of, or implementation of, clinical practice guidelines. There are a few individual clinical practice guidelines and care paths in use, but little enthusiasm for working on them. Some of the existing care paths (for example, orthopedics) need to be revised in the light of current acceptable medical practice.

Clinical pathways should be developed for all common patient categories requiring admission

Clinical pathways should be developed for all common patient categories requiring admission. These pathways should be developed by a team of clinical staff working within the specialty area. Model pathways from other institutions can be helpful. The support services should be consulted during this process to smooth any issues with respect to availability of that resource. This would include and not be limited to Discharge Planning, Physiotherapy and Home Care Coordination.

Many of the standard pharmacy and drug management UM programs are in place, including drug substitutions, reserved drugs, and drugs requiring consultation, etc.

Information

Program Directors have the responsibility to "ensure the availability and use of appropriate information to monitor Program performance and direction setting".

Physician-specific length of stay data has not been routinely distributed in all programs

The utilization manager generates most physician length of stay reports using the 3M abstracting and reporting software. "Opportunity maps" at the program, doctor service, and physician level can be generated for distribution to the programs. Historically, physician-specific length of stay data has not been routinely distributed in all programs. CIHI data is often viewed with suspicion as being inaccurate. Some programs that previously distributed physician-specific length of stay data have stopped doing so, because of the negative reaction from physicians.

A set of standard CIHI reports, including physician-specific length of stay data, have been developed and are currently being reviewed. Acceptance of these reports should allow responsibility for the production of basic, comparative reports to be shifted to Health Records. Use of standard ("canned") reports should also improve the timeliness of dissemination of length of stay data to the medical staff.

There is concern that ALC days are not comprehensively captured (particularly in the Mental Health program). One disincentive to declare that a patient no longer requires acute care is the impact on physician compensation of categorizing a patient as "medically discharged". Once a patient is medically discharged, a physician cannot bill for daily care for that patient, and patient copayment begins. ALC designation should be separated from formal designation of patients as "medically discharged".

Board Role in Utilization Monitoring and Management

The terms of reference of the Board QI Committee refer to quality monitoring, review of quality indicators, monitoring occurrences and monitoring statements of claim. There are no references to monitoring utilization.

The Board QI Committee meets 9 times per year. Board QI Committee meeting minutes are provided in the Board meeting package.

No standard clinical indicators are reported to the Board on a routine basis. The Chair of the Board QI Committee brings information forward on an ad hoc basis. LOS and occupancy data is not routinely provided to Board. There was concern after the merger that data wasn't comparable across sites, and reporting of this data has not yet been resumed.

Board members reported that the Board focuses primarily on finances. There is a feeling among Board members that information is not available to support evidence-based decision making by the Board.

As an example, the summary of the 2000 ACAHO/HayGroup Benchmarking Study provided to the Board refers to the number of times that HCCSJ exhibited best practice for use of ambulatory care (2% of the time) and for length of stay (3% of the time). It reports that there is potential to "reduce length of stay by 31% if we achieved **all** the national best practice benchmarks". This opportunity is not put in context, e.g. it is the 2nd highest percent opportunity of 31 teaching hospitals included in the study.[62] It was not clear whether similar information regarding the Study results had been shared with the MAC.

Utilization information is also missing or limited elsewhere. The HCCSJ Corporate Strategic Plan 2001 – 2003 document includes data on:

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[62] The draft 2001 CIHI/HayGroup Benchmarking Report for teaching hospitals shows that the potential to reduce length of stay at best practice has increased to 34%, the highest of all of the hospitals included in the study.

- Demographic trends
- Health status indicators
- Regional self-sufficiency
- International, national, provincial, and regional health care expenditure trends
- Human resource indicators

There is no data on comparative efficiency (e.g. length of stay, use of ambulatory care, cost per weighted case) or utilization (admissions per population, occupancy).

Without information on clinical efficiency the Board has been forced to accept the management's assurances that there are no significant opportunities to reduce costs without decreasing service

Without information about relative performance of HCCSJ with respect to resource use and utilization, it is impossible for the Board to determine whether it is possible for the Corporation to live with fewer resources without harming quality of care and patient access to services. In the absence of such information, the Board has been forced to accept the assurances of management and the medical staff that there are no significant opportunities to achieve the Department of Health and Community Services goal of elimination of the deficit.

Medical Staff Involvement in Utilization Management

The Corporate UM Committee (now defunct) reported to both the Corporate QI Committee and the MAC. Its specific responsibilities included:

- Providing a coordinate approach to UM by monitoring and reviewing program and service utilization patterns
- Reviewing bed utilization activities and trends each month

The minutes of the CUMC were reviewed at the MAC meetings. Since that committee was disbanded and its responsibilities transferred to the Corporate QI Committee, the MAC no longer reviews minutes related to corporate utilization management or quality initiatives. This sends a message to the medical staff that it is appropriate for physicians to be disengaged from corporate utilization management activities.

Two clinical chiefs sit on the Corporate QI Committee and one clinical chief sits on the Board QI Committee.

The Regulations of the Medical Staff Bylaws specify the responsibility of medical staff at HCCSJ to participate within their programs to enhance patient care. They have no corresponding responsibility to efficiently manage the resources of the Corporation.

There is a major problem within HCCSJ with physician acceptance of responsibility for utilization management.

We believe that there is a major problem within HCCSJ with physician acceptance of responsibility for utilization management. Some of the physicians actively resist any attempt to reduce the length of stay. For example, in interviewing in one department, the chief acknowledged that there are a couple of senior physicians who like to admit patients well ahead of time for surgery, simply because they have always done it this way. The chief in question did not consider himself empowered to do anything about it.

Program Clinical Chiefs have the responsibility to "ensure the effective and efficient use of resources particularly as it relates to the Medical Staff. Clinical chiefs are reluctant to, and don't feel sufficiently well compensated to, confront their peers regarding utilization issues.

Timely accurate information is essential on the LOS performance by department/program and by physician - and the clinical chiefs must be expected and empowered to deal with it. There should be a review of the expectations of the Corporation with respect to Clinical Chiefs role in utilization management, and a process to evaluate their performance.

There should also be a study to evaluate the appropriate compensation of physicians for involvement in administrative activity. It appears that there is no reward system for Chiefs to promote better utilization

The Clinical Chiefs must be held accountable for dealing with utilization information appropriately. That is, insisting that it be reviewed at the first available department meeting with monitored attendance. Discussions at the departmental meeting then need to be followed up by the clinical chiefs, one-on-one, to facilitate change. In the face of resistance or frank disinterest, the clinical chief needs support from senior management and the MAC and the Board to deal with the physicians involved.

Outlier physicians who are not willing to look at their practice may need to be dealt with using the re-appointment provisions of the medical staff bylaws. The physician re-appointment process should consider utilization performance as well as all the other factors.

Medical staff support for evidence-based evaluation of the efficiency is critical to achieving the performance levels expected of a Canadian teaching hospital.

Review of MAC meeting minutes found references to bed utilization, but usually attributed bed shortages to lack of external funding, rather than potential inefficient internal use of the beds.

Engagement of the medical staff of HCCSJ in utilization management initiatives and acceptance by them of responsibility for supporting evidence-based evaluation of the effectiveness and efficiency of the HCCSJ's services is critical to allowing HCCSJ to achieve the performance levels expected of a Canadian teaching hospital.

Recommendations

It is recommended that:

(38) The Vice-President Medical Services should ensure that all Program Clinical Chiefs receive and distribute physician-specific length of stay reports on a quarterly basis.

(39) The Vice-President Medical Services should ensure that the Medical Staff Bylaws Rules and Regulations are modified to require that all attending staff members record an expected date of discharge in the medical record within 24 hours of the admission of any patient.

(40) The Vice-President Medical Services should ensure that clinical practice guidelines are developed (including expected length of stay), implemented and actual performance monitored, for the most common medical conditions and surgical procedures necessitating hospital admission.

(41) The Vice-President Medical Services should ensure that guidelines are developed on the indications for interventions for which HCCSJ has a high rate of utilization, such as hysterectomy and myringotomy.

(42) The Vice President Medical Services should ensure that the Medical Staff Bylaws are modified to explicitly define the expectations that medical staff will participate within their programs and departments to improve the efficiency of the services they provide.

(43) The HCCSJ Board of Trustees should ensure that information regarding the comparative performance

of the Corporation with respect to utilization and efficiency is provided to the Board on an annual basis.

(44) The Vice-President Medical Services should ensure that the evaluation of performance for reappointment of medical staff includes evaluation of clinical efficiency.

(45) The Vice-President Medical Services should reestablish the Corporate Utilization Management Committee as a standing committee of the MAC, and expand the membership to include the Clinical Chiefs of all programs.

(46) The Vice-President Medical Services should initiate a study to determine the appropriate compensation of HCCSJ physicians for involvement in administrative activity.

5.0 Departmental Reviews

Pressures to manage operating costs are challenging hospitals to find new ways of doing things, while at the same time demanding that service quality be maintained and even improved. Service delivery is composed of three integrated components, as follows:

- Human Resources – staffing, organization, competencies, training and education
- Technology - "tools" used in delivering services (information systems, equipment, etc.)
- Process - methods and organization of how services are delivered.

The objective of the departmental reviews was to identify potential opportunities where HCCSJ could improve the efficiency and cost effectiveness within selected functional centres and services.

On-Site Interviews and Observations

On-site reviews and interviews were conducted in the following departments/service areas:

- Emergency Departments
- Operating Rooms/PARR
- Critical Care Units
- LDR's
- Nursing Units
- Pharmacies
- Therapeutic Services/Sites
- Laboratories
- Imaging Services
- Dietary Services
- Housekeeping Services
- Materials Management
- Admitting/Registration
- Health Records
- Information Services
- Dr. Walter Templeman Health Centre, in Bell Island

The areas of focus during the on-site encompassed the following:

- Organization Design & Management Processes
- Departmental operations and procedures
- Inter-departmental coordination and processes
- Facilities, Equipment and Supplies
- Productivity and Staffing Review
- Impacts of Other Organizations
- Opportunities for improvement, including redesign or reengineering of work processes, alternative service delivery approaches, improved use of information technology, etc.

The degree and magnitude of improvements in productivity and reductions in cost that the functional centres could achieve was determined through on-site interviews, observations and follow-up data analyses.

Performance Comparisons & Follow-up Data Analyses

For purposes of this review it was agreed by the project's Steering Committee that the performance of the HCCSJ's functional centres would be compared against a peer comparator group comprised of the following Canadian teaching hospitals:

- Kingston General Hospital, Ontario
- London Health Sciences Centre, Ontario
- Hamilton Health Sciences Centre, Ontario
- Sunnybrook & Women's College Health Sciences Centre, Toronto, Ontario
- The Ottawa Hospital, Ontario
- McGill University Health Centre, Montreal, Quebec
  - McGill - Paediatric
  - McGill - Adult
- Winnipeg Regional Health Authority, Manitoba
  - WRHA - St. Boniface
  - WRHA - Health Sciences Centre
- Vancouver Health Sciences Centre, British Columbia
- Calgary Regional Health, Alberta
  - CRH – Foothills Hospital
  - CRH - Alberta Children's Hospital
- Capital Health Authority, Edmonton, Alberta

The performance screening exercise compared each of HCCSJ's functional centre's performance relative to a peer range of performance, as follows:

- Minimum Performance Level
- Top Quartile Performance Level
- Median Performance Level
- Bottom Quartile Performance Level
- Mean Performance Level

The peer hospital performance ranges were developed using each hospital's reported 2000/01 data in accordance with the Canadian Management Information Systems (MIS) reporting guidelines[63]. Comparisons of HCCSJ's functional centres performance was primarily based on the HCCSJ 2001/02 YTD performance (as of October 31, 2001) as reported to the project team by the hospital. The hospital's 1999/2000 and 2000/01 performance was also taken into consideration. During the course of the project we conducted a significant amount of data correction and refinement with HCCSJ staff to address obvious errors/omissions identified in HCCSJ's reported data.

Also, following and based on the review of the Draft Final Report with the Steering Committee the following additional changes to the HCCSJ reported data were incorporated into our analyses[64]:

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[63] While the MIS Guidelines provide a uniform set of reporting guidelines there continues to be vagaries in reporting of workload, staffing and costs among Canadian hospitals. The budget for this project did not allow for reviewing the reporting of comparator hospitals to confirm the accuracy of their data. However, given the number of comparators and the use of the top quartile rather than the 'best practice' performance level, the vagaries in reporting should not have a significant impact on the reasonableness of the performance targets established in this project.

[64] It should be noted that HCCSJ identified additional deficiencies in the data provided to us to support our review. Subsequent to completing our data development and analysis, the hospital determined that in some instances it has not been allocating staff hours or workload to the correct functional centres. As a result, the productivity analysis presented here may not accurately reflect the performance of some functional centres. Similarly, the hospital determined that it may have understated workload in some departments, and therefore the productivity analysis may not reflect current productivity in some functional centres. Also, the hospital reported that it has been uniformly reporting orientation hours as worked hours. According to the MIS guidelines, some orientation hours (classroom time) should be recorded as benefit hours. As a result in areas (primarily nursing critical care) that use a significant amount of

- HCCSJ inadvertently reported pounds of laundry versus kilograms of laundry. This correction was made.
- The labour classifications initially provided by HCCSJ for the allocation of Allied Health personnel from nursing services only addressed reassignment of professional allied health staff and left paraprofessional allied health staff in the nursing units. A subsequent algorithm was developed to allocate all allied health staff from the nursing units to the appropriate functional centres.
- During the course of the data analyses it was determined that while HCCSJ charges the costs of float and casual pool resources to the functional centre where they worked, the hours associated with these resources are charged to General Administration and Personnel services. HCCSJ identified the appropriate break down of these hours by functional centre, but unfortunately this information was provided too late for inclusion in the Draft Final Report and functional centre productivity analyses for review with the Steering Committee. The distribution of the hours to the appropriate functional centres has now been incorporated into our analyses
- HCCSJ identified that the Miller Centre functional centre is associated with and funded by the DVA on a cost recovery basis and thus was excluded from the analyses of this review.
- HCCSJ records paid hours associated with overtime as worked hours resulting in an overstatement of worked hours. The hospital provided us with information to reduce the recorded overtime hours to the actual hours worked. (This correction was inadvertently overlooked in our initial analysis.)

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classroom time for orientation, our analyses may have used an overstatement of worked hours in calculating current levels of productivity. Unfortunately the time frame and budget for our work on this project did not allow us to investigate and confirm the hospital's assertions regarding needed changes in allocation of worked hours and/or measurement of workload or to redo our analysis and rewrite our report to account for any appropriate changes. The Department of Health and the hospital may wish to investigate these changes further as one of the first steps in implementing the recommendations of this review.

The top quartile is considered to be a reasonable expectation of the level of performance for functional centres in Canadian teaching hospitals

An initial performance target equivalent to the top quartile level achieved by the peer group was established to assess the impacts of HCCSJ's achieving this level of performance. It is expected that the performance of those HCCSJ functional centres that are currently operating within the top quartile will be maintained assuming that no negative impact on quality of service was detected in our review of functional centre operations. The top quartile is considered to be a reasonable expectation of the level of performance for functional centres in Canadian teaching hospitals. It was thought that best practice performance (the fewest hours/unit of workload) was not a reasonable target for the purposes of this type of operational/funding review. (However, it is noted that many hospitals are benchmarking and attempting to achieve best practice performance as part of their Continuous Quality Improvement Exercises.)

The use of the top quartile performance level for screening *does not imply* that this is the ideal or expected performance level. Based on the comparative analyses and on-site reviews we have recommended and quantified potential improvements in levels of performance of many of the hospital's functional centres. In some of these functional centres the suggested/targeted performance levels will leave the functional centre less productive than the top quartile performance level of the comparator hospitals. In other areas the performance target is at or better than the top quartile performance level of the peer group. As HCCSJ moves forward with the recovery plan further opportunities for improved performance may also arise.

Appendix A provides the results of the top quartile performance screening component of this operational review for each functional centre. This screening suggests that there is a potential for HCCSJ to achieve a savings of $45.1 million if functional centres currently performing at less than the top quartile could in fact achieve this level of performance.

Not all areas were visited or reviewed in detail as part of this project. Of the functional centres reviewed, the screening suggests a potential saving of $40.6 million. However, our review and analysis of departmental performance suggested a target savings of only $18.6 million. As a result opportunities for improved performance and reduced cost may be available to the hospital in addition to those identified in the departmental reviews presented in this section of our report.

A Preliminary Report was prepared to identify initiatives that can be undertaken to immediately reduce costs to move towards a balanced operating position in the current fiscal year.

As part of this project a Preliminary Report was submitted to the Department of Health January 2001 that identified initiatives that could be undertaken to immediately reduce costs to assist the HCCSJ to move towards achieving a balanced operating position in the current fiscal year. This report is included as Appendix B.

These findings have been further refined and augmented as appropriate with additional analyses of governance & management, operating efficiency, clinical efficiency and cost reduction/revenue enhancement opportunities and are included in the departmental analyses presented in this chapter.

It should be noted that many of the recommendations provided in the interim report were short-term initiatives for dealing with the remainder of fiscal year 2001/02; they should not necessarily be considered as appropriate or necessary for application beyond the 2002/03 fiscal year.

5.1 Special Care Areas

5.1.1 Dr. Walter Templeman Health Centre, Bell Island

Overview

The Dr. Walter Templeman Health Centre is a community health facility located on Bell Island. The services provided by the Centre are as follows:

- 20 inpatients beds:
  - 12 long term care beds (level III)
  - 6 acute care beds
  - 1 palliative care bed
  - 1 respite/convalescent bed
- Outpatient Clinics (physician practice, chemotherapy services, diabetes education services)
- Emergency Services (24 hrs, 7 days per week)
- Basic Laboratory and Diagnostic Imaging Services

The Centre provides a basic level of primary care services, many of which are age related (chronic lung disorder, diabetes, etc.).

Health and Community Services also provides community health nursing, mental health and addictions counseling services (weekdays) from the Health Centre. A private Dentist provides service once per week. The Senior Medical Officer operates her private practice at the Centre.

Program costs, FTE and Patient Days are presented in following exhibit.

Exhibit 5.1
Dr. Walter Templeman Health Centre

	1999/2000	2000/01	2001/02
Gross Operating Costs	$2,201,557	$2,372,422	$2,361,780
FTEs	46.73	47.33	45.14
Patient Days	4,416	4,766	5,078

Operations

The day to day operations of the centre is overseen by the Division Manger. The Division Manger is responsible for the direct management of staffing and operating costs of the following services:

- Nursing Services
- Laboratory and Diagnostic Imaging Services
- Medical Records and Admitting Services
- Clerical/Secretarial Services

These services account for approximately 70% of the Centre's operating costs. Housekeeping Services, Food Services and Facilities Management comprise the remaining 30% of the operating costs and are managed by corporate services located in St. John's. Daily guidance and direction is provided of these services by the Division Manager.

Key observations/findings are as follows:

- Occupancy rates have ranged between 65% - 70% over the past three years[65]. Chronic care occupancy has actually decreased from 94.3% in 1998/99 to 66.1% in 2001/02. Until 2001/02 acute care[66] occupancy was approximately 48%. Two long term patients (waiting placement) using acute care beds has resulted in the increased occupancy rates. The 69.9% occupancy projected for 2001/02 indicate that on a daily basis approximately 14 (13.9) patients are occupying the inpatient beds on average

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[65] As reported in Annual Reports.

[66] Acute care, palliative and respite beds

- Nursing staffing work 12 hours shifts and an RN/RPN staff mix is used. Five nurses are staffed for days and three nurses are staffed on evenings, resulting in patient to nurse ratios of 2.8 and 4.7 respectively. This staffing pattern is in place 7 days per week. This ratio is low compared to what is typically found. The Division Manger is also an RN and also provides patient care services as required.
- The outpatient/emergency area is staffed with one staff nurse from 0900 – 1700 Monday to Friday. Night time and weekend Emergency coverage is provided the inpatient nursing staff as required.
- Sick leave hours per FTE are approximately 18% higher than the corporate average. Given the low ratio of patients to staff, staff may feel less pressure when managing their sick time entitlements.
- The HCCSJ is having difficulty sustaining its current 1 in 4 physician on-call schedule for weekends and nights. There is difficulty finding available physician resources and the SMO is often providing additional coverage to fill in the call rotation. These coverage problems will worsen upon the retirement of one of the local practicing physicians who provides coverage. Locums are reluctant to provide coverage since higher rate of reimbursement is provided in St. John's. Coverage is even more difficult to arrange for holidays and during vacation periods.
- The shortage of physicians who will provide coverage of the Emergency Departments in St. John's also is a factor in recruiting and maintaining coverage for Bell Island.
- Basic laboratory and x-ray services are provided by laboratory technologists/technicians trained to provide basic radiology services. Concerns have been expressed by the main departments in St. John's regarding the licensing of these personnel[67]. Equipment from the former Grace hospital has been used to update the equipment at the Centre. While this point-of-care testing does provide the benefit of not requiring to send all ER patients and specimens to St. John's, the infrastructure required to support this service (equipment

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[67] The main HCCSJ Laboratory and Diagnostic Imaging departments do not have responsibility for these resources.

maintenance and replacement costs, quality control/testing, staff training, etc) is significant.

- Patients have limited access to allied health services, for example:
  - Physiotherapy plans are developed in St. John's and performed by the nursing staff, however no on-site patient assessments/reviews were reported as being done by Physiotherapists
  - No dietician services are available on site
  - The Division Manger has an Occupational Therapist contact to use as a resource
  - An informal relationship has been established with the PT/OT services attached to the on-site Community Health Services on site
  - Limited, if any, service is received from Social Work and Psychology resources

Productivity comparisons with peers are not possible.

Productivity comparisons based on hours per patient day, as conducted for other HCCSJ nursing units, are not possible since the HCCSJ tracks all of the Centre's resources (with the exception of housekeeping, dietary and food services) in a single inpatient nursing cost centre. This includes all nursing resources (inpatient and outpatient), heath records, admitting, laboratory/x-ray, clerical/secretarial and management resources.

Summary and Recommendations

The Bell Island community has been fortunate to have two local practicing physicians who reside on the island. The future role and services provided by the Dr. Walter Templeman Health Centre are to a large extent dependant upon the ability of HCCSJ to attract physicians to provide on-site coverage based. Success in recruitment will be very dependent on the reasonableness of the on-call schedule for physicians recruited for the island. And the recruit will need to be confident that the schedule can be sustained over time. The HCCSJ is having difficulty sustaining the current one in four coverage schedule. Will it be able to convince potential replacement physicians that there will be sufficient physician resources into the future to maintain the schedule?

While the issue of transportation in case of emergency after hours is important these types of issues can usually be resolved. The risks associated with emergency situations (which are likely low probability risks with low levels of frequency) are likely exceeded with quality risks associated with any inability to guarantee consistent physician coverage and ensuring consistent contingencies are in place for getting patients seen when there is no physician coverage.

Also there is a need for the HCCSJ to consider whether the inpatients at the Centre do in fact have access to same scope of therapeutic services as those available to inpatients in St. John's (such as PT, OT, SW, Clinical Nutrition, etc.) nor is there immediate access to support to deal with emergent or even acute episodes of the admitted acute care patients. It is highly improbable that the Centre will ever be capable of providing the kind of care, that it is expected of hospitals today and in the future.

The HCCSJ should undertake the strategic planning and redevelopment of the Dr. Walter Templeman Health Centre as a comprehensive outpatient primary care facility. This change in role would/may include the following:

- Elimination of inpatient services at the Centre. The current inpatients could be absorbed in the available capacity of other HCCSJ sites with minimal impact. The Centre's approximately 2,900 chronic patient days would result in the Miller Centre's occupancy to increase from 90.6% to 95.7% (which is less than the 2000/01 occupancy). The HCCSJ acute care facilities would continue to operate at occupancies below 90%.
- Conversion of the Emergency Service into an Urgent Centre operating at reduced hours of coverage.
- Primary care home-visiting services for elderly residents of Bell Island. To reduce visits to the Centre and St. John's
- Continued point of care laboratory testing, with all x-ray testing to be referred to St. John's
- The use of Acute Care Nurse Practitioners to provide a high quality, low cost option for the management of urgent care visits.

The benefits to be realized from this redevelopment include an access to a more comprehensive range of inpatient services for Bell Island residents, reduced demand for physician coverage and lower operating costs. Lower operating costs would be achieved through:

- Smaller physical plant requirement would lead to lower housekeeping, maintenance and utility costs.
- Food Service costs for inpatients (8 chronic patient and 6 acute car patient on average per day) could likely be absorbed by existing HCCSJ site's resources.
- Reduced laboratory and x-ray resources
- Reduced clerical/secretarial requirements
- Reduced on-site management requirements
- Less nursing staff through the use of more efficient nursing staffing patterns at other HCCSJ sites.

It is estimated that converting the focus of the Centre would provide for a 25% – 30% reduction in operating costs while continuing to provide effective, high quality medical care services to Bell Island residents.

It is recommended that:

(47) The Board and CEO should convert the Dr. Walter Templeman Health Centre into an outpatient primary care health centre.

5.1.2 Emergency Departments

ED visits have decreased by 7.5% and FTEs have increased by 14.4% since 1999/2000.

The General, St. Clare's and Janeway sites have full service, tertiary care emergency departments operating 24 hours per day. Visit volumes and FTEs are presented in the following exhibit. Emergency Department visits have decreased by 7.5% and FTEs have increased by 14.4% since 1999/2000.

Exhibit 5.2
Emergency Department Visits and FTEs by Site by Year

Site		1999/2000	2000/01	2001/02 Forecast	% Change
St. Clare's	Visits	32,023	38,722	40,221	25.6%
	FTEs	33.97	46.07	48.22	41.9%
Grace	Visits	23,747	4,906		-
	FTEs	18.39	4.23		-
General	Visits	36,600	42,436	44,933	22.8%
	FTEs	55.11	82.87	82.18	49.1%
Janeway	Visits	33,797	32,845	31,810	-5.9%
	FTEs	36.99	40.11	38.67	4.5%
Total HCCSJ	**Visits**	**126,167**	**118,909**	**116,694**	**-7.5%**
	FTEs	**144.46**	**173.28**	**169.07**	**17.0%**

Operations

The full-time emergency physicians are currently working a large number of hours, a high frequency of night shifts, and night shifts of 14 hours duration. These types of work patterns have been well demonstrated in the literature to increase stress and burnout, and decrease career longevity. These factors contribute to the relative lack of Emergency physicians in St. John's. Decreasing the demand for night services through the consolidation of emergency services into fewer sites would assist in this regard. The proposed development of a third year training program in emergency medicine in conjunction with improved physician coverage patterns will go a long way towards addressing this human resource issue, by providing a significant recruitment opportunity.

There are concerns regarding the training of the Janeway ED physicians in emergency medicine and their capabilities in emergency medicine techniques and care processes. This is resulting in delays in providing definitive treatment for many urgent and emergent patients. It may be resulting in increased costs of investigations, inappropriate requests for consults and unnecessary admissions. These practices are adversely affecting the quality of the educational training program. Also, it exacerbates the hospital's already significant problems in recruitment and retention. And, it is placing a burden on the ED nursing staff who, as a result, carry a significant portion of the clinical decision-making and care of ED patients.

The Department of Emergency Medicine should develop, implement and monitor the use of evaluation protocols and care maps.

There is a lack of evaluation protocols and care maps. These protocols should, at a minimum, include defined standards for testing, dictate the frequency of testing, and provide a streamlined process to ensure that patients seen in the emergency department receive a standard of care which is safe, and is also cost efficient and minimizes the inappropriate use of hospital-based resources. These may be used both on the ambulatory (e.g. emergency) as well as the inpatient side. Examples of protocols and care maps include the following:

- A chest pain protocol should be developed that, at a minimum, defines the standards for testing, including not only biochemical testing but also stress testing, nuclear cardiology, and angiography.
- A lumbar puncture first protocol for patients with suspected subarachnoid hemorrhage, would likely decrease demands for CT Scanning.

- Strict criteria should be established for the ordering of x-rays by registered nurses in the emergency department and clinical decision support guidelines established which, on an evidenced based collaborative basis, delineate the specific haematologic, biochemical and radiological investigations which are appropriate to the management of medical conditions (e.g. abdominal pain, stroke, chest pain NYD).

The Department of Emergency Medicine should develop, implement and monitor the use of evaluation protocols and care maps.

Janeway ED Poison Control and Telephone Advice Line

The Janeway Emergency Department staffs a Poison Control and Telephone Advice line with 3 FTEs. It was reported to us that the Poison Control Centre averages about 5 calls per day and that the Telephone Advice line averages approximately 12,000 calls per year (about 33 calls per day). This service is provided to anyone in the province. While there are concerns whether or not the Province funds the service specifically, our primary concern relates to the quality of care this service provides and its cost effectiveness, as follows:

- Although there are protocols guiding the staff of the advice line, the service does not use a system based on validated algorithms in responding to requests for information and/or advice.
- Protocol driven (as contrasted with algorithmic) information and advice lines are prone to incomplete data collection and inconsistent and potentially inaccurate information sharing and advice.
- There is ample literature suggesting that telephone triage systems pose a potential liability. This liability extends to physicians or nurses providing telephone advice as they are responsible for any negligent act or omission.
- Although information lines are often established to reduce visit volume in the ED, this study was not provided with evidence or information to suggest that the service has resulted in decreased visits to the Janeway Emergency Department. And, there is no conclusive evidence in the literature of any direct relationship between telephone advice lines and a reduction in emergency department visits.
- Also, the objective to reduce ED visit volume may be unnecessary in that there is literature demonstrating that the

marginal cost of low acuity patients presenting to emergency departments is very low,

- And the objective to reduce ED visit volume may be counter-productive in that the loss of income on the part of emergency physicians working in a fee for service model from the elimination of these relatively non-complex cases may only make emergency physician recruitment and retention more difficult
- The management of low acuity patients is an important component of the emergency department educational program. Reduction in the number of low acuity patient visits from the emergency department will interfere with the teaching of health systems, as well as the management of common minor ambulatory conditions, particularly for residents who are not enrolled in family medicine programs.

The poison advice line could be substituted by a 1-800 connection to another, larger Children's hospital such as the Hospital for Sick Children Poison Control Centre, which is available 24 hours/day and provides an up-to-date data bank and access to a certified medical toxicologist.

Shortages of house staff and medical specialists are causing significant delays in responses to requests for consultation.

There are many services, particularly surgical sub-specialties that have no assigned residents. At times, this results in either a complete lack of service availability or alternatively delayed responses to requests for consultation. The inability to provide coverage (such as plastic surgery) to an entire province for an extended period of time (such as over the Christmas holidays) is inappropriate and should be remedied. The Vice President Medicine should ensure there is an adequate number of specialists for each service to ensure support for the EDs (and inpatients) at each site. Additionally, the Vice President Medicine and the Chair of the MAC should establish and enforce guidelines for appropriate response times of all consulting services to emergency requests for consultations.

There are significant potential benefits from merging the adult and paediatric EDs at the Janeway/HSC

There are significant potential benefits to be realized from merging the adult and pediatric emergency department operations. These include the following:

- Enhanced training opportunities for the proposed 3rd year trainees
- Minimizing the needs for night shift coverage of multiple emergency departments

- More cost-effective diagnostic and therapeutic support for off-hours emergency department services
- Enhanced opportunities to take advantage of the skill set of the already existing cohort of well-trained emergency physicians
- Enhanced recruitment opportunities as a well-developed pediatric practice is a keen recruitment advantage.

However, this would require facility modifications to maximize separation of children from adults during waiting (distinct and separate waiting area) and during treatment [treatment areas (and nursing staff) designated as primarily adult and primarily paediatric]. Nurse scheduling must ensure the following:

- each shift includes experienced paediatric emergency nurses,
- maximizes opportunities for paediatric nurses to mentor colleagues and
- maximizes training and orientation opportunities for nursing in emergency paediatric nursing.

There were a significant number of concerns reported related to the availability of a comprehensive array of diagnostic imaging services out-of-hours. This results in increased lengths of stay, patients being admitted to hospital in order to have tests performed, and delays in through-put in the emergency department.

Departments of Emergency Medicine and Diagnostic Imaging should work together to ensure adequate diagnostic imaging services are available during off-hours.

The consolidation of all diagnostic imaging services at the Janeway/Health Sciences Centre complex into one diagnostic imaging service and potentially area would enhance evening night coverage to adequately respond to the need to support the Emergency Department. It likely would also lead to the optimal use of technicians, support staff and Radiologists. Minimally, the Department of Emergency Medicine and the Department of Diagnostic Imaging should work together to ensure adequate Diagnostic Imaging on-site services are available during off-hours.

The majority of emergency consultation requests from the emergency department result in an admission. The time delay between the request for a consultation and the admitting order being written may be up to 12 hours in duration. The emergency physician should be allowed to inform the admitting department that the patient will likely require admission, and thus have the paper process of admissions started earlier. This will result in an enhanced awareness of the demand for inpatient resources, as well as a streamlining of the administrative process of admitting patients to hospital, resulting in decreased length of stay in the emergency department.

There are currently times when admitted Emergency patients are kept in the Emergency department because of a lack of available nursing resources in inpatient units. This constitutes a "transfer" of responsibility from inpatient units to the Emergency and adversely impacts the efficiency and quality of the Emergency Department. If these delays are encountered due to a shortage of inpatient nursing staff to support budgeted and open beds, it is suggested that patients be transferred from Emergency Department to these beds.

The availability of well-trained emergency physicians is affording the Emergency Department the opportunity to thoroughly investigate and manage patients before referral to consulting services. However, emergency physicians should notify consulting services early of critically ill patients in the Emergency Department (e.g. infant resuscitations, trauma) so that residents from these services may be summoned to the Emergency Department in order to maximize their educational and training opportunities.

The Department of Diagnostic Imaging should establish designated slots for discharged emergency patients

The Department of Diagnostic Imaging does not have designated slots available for patients who are discharged from the Emergency Department. This will increase the need to either perform investigations after hours with call backs, or keep patients in the Emergency Department for extended time periods resulting in decreased patient through put, increased nursing costs, and decreased patient and medical and nursing staff satisfaction. The Department of Diagnostic Imaging should establish designated slots for discharged emergency patients that are bookable directly by the Emergency Department. The number of slots should be determined in consultation with the Department of Emergency Medicine.

The hospital should explore opportunities to make use of Acute Care Nurse Practitioners (ACNP) in the ED

The hospital should explore opportunities to make use of Acute Care Nurse Practitioners (ACNP). The ACNP could provide a high quality, low cost option for the management of level 3, 4, and 5 triage patients in the ED. They may also be used to provide out-of-hours or day-time services to inpatients in a variety of areas, particularly those that are not covered by house staff physicians.

A careful review of requests for toxicology screening should be conducted. Most often, toxicologic screens provide no additional clinical benefit, and only drug levels of known ingested poisons that need to be followed sequentially should be offered as a laboratory service.

Point of Care Testing would expedite treatment in the ED.

There is no point of care testing system in the Emergency Department. The hospital should explore every possible opportunity to offer point of care testing. At a minimum the organization should be providing point of care testing for urine pregnancy tests, glucometer, and, if necessary, qualitative assays for cardiac markers. Point of care testing expedites treatment and decisions regarding patient disposition. The Director of Emergency Services and Director of Laboratories should evaluate, plan and implement a point of care testing program in each site of the HCCSJ Emergency Department.

Impact of Facilities and Equipment

The physical plant at the General site ED is highly inefficient. Specific concerns and key issues include the following:

- There are a large number of corridors, closed doors, and walls in inappropriate locations that contribute to added nursing costs to provide appropriate vigilance to patients.
- The Emergency Department is located a significant distance away from intensive care units, resulting in time lost while three individuals accompany patients on transfers
- There is not an adequate psychiatric facility.
- The reception area is the point of first patient contact, rather than, more appropriately, the triage desk.
- There is no tracking board present in the Emergency Department.

Consideration should be given to consolidating all HSC/Janeway Emergency Department operations on the Janeway site.

The Janeway Emergency Department site is a much more appropriate physical resource and consideration should be given to the relocation and consolidation of all emergency department operations onto the Janeway site. A second alternative would be moving the family practice unit to an outside physical plant and conducting a major modification of the family practice unit and the currently existing emergency department at the Health Sciences Centre, creating one emergency department for the use of both adults and children.

The physical plant at the St. Clare's site is antiquated, inadequate and an inappropriate clinical environment

The physical plant at the St. Clare's site is antiquated, inadequate and an inappropriate clinical environment. The current physical plant results in increased cost of operation, potential medico-legal liability costs and poor efficiency. Significant, major and very costly renovations/modifications are required to create a clinically appropriate environment and may not be justifiable. Other more justifiable options may be the consideration of an entirely new physical plant or the consolidation of all emergency services on one site at the Health Sciences Centre or the Janeway. (It is recognized that this would require a significant capital redevelopment at the HSC/Janeway site).

The availability of community-based family medicine resources after hours would reduce the number of emergency visits significantly and further strengthen the option of consolidating all emergency services on a single site.

ED Productivity Analysis

Productivity is measured and compared as the total worked hours per visit (hrs/visit).

Exhibit 5.3
ED Performance Comparisons (Worked Hours per Visit)

		Total HCCSJ	St. Clare's	Grace	General	Janeway
HCCSJ	1999/2000	1.81	1.69	1.24	2.43	1.66
	2000/01	2.28	1.86	1.38	3.08	1.89
	2001/02	2.28	1.90	-	2.87	1.91
Peer Range 2000/01	Minimum	1.16	1.16	1.16	1.16	1.16
	Top Quartile	2.09	2.09	2.09	2.09	2.09
	Median	2.65	2.65	2.65	2.65	2.65
	Bottom Quartile	2.95	2.95	2.95	2.95	2.95
	Mean	2.66	2.66	2.66	2.66	2.66

The overall HCCSJ emergency department productivity of 2.28 worked hours per visit is between the top quartile and median performance levels achieved by the peer group of hospitals. Peer hospitals within the top quartile are London Health Sciences Centre, The Ottawa Hospital, McGill – Pediatrics and the Calgary Children's hospital.

The productivity of the Janeway and St. Clare's Emergency departments is within the top quartile performance level of the peer hospitals. Of note is that of the peer hospitals that reported pediatric emergency separately (Calgary and McGill) both of these hospitals are also within the top quartile performance level.

There appears to be significant opportunity to improve the efficiency of ED nursing at the General site.

The General site's productivity of 2.87 worked hours per visit is near the bottom quartile performance level of the peer hospitals. The number of admitted patients that are being cared for in the Emergency Department (versus transferring these patients to inpatient units) may be contributing to higher nursing hours. To achieve the top quartile performance level of 2.09 worked hours per visit a reduction of 22.49 FTEs would be required (27.9% reduction).

Factors to consider in establishing productivity targets include the following:

- The Grace Hospital's productivity levels prior to closure were much better than the current HCCSJ productivity levels and would tend to suggest a lower level of visit acuity occurred at the Grace. . HCCSJ has suggested that the reduced overall ER visit volumes represent the primary care visits from the Grace Hospital that no longer present in the HCCSJ Emergency Departments, and only the higher acuity patient visits from the Grace Hospital are presenting. These visits are now receiving 50 to 129% more hours per visit depending upon the site visited (either St. Clare's or the General). It is unlikely that the acuity of these visits have increased by the same amount
- There are facility constraints that must be addressed at the General site to improve the overall productivity. There would appear to be minor renovations that could be undertaken immediately to improve the overall workflow and productivity of the department now.
- HCCSJ identified an increase in the number of admitted patients staying in the Emergency Department at the General site. The issue of admitted Emergency patients was discussed earlier in this section.

Departmental Staffing Requirements

We recommend that the Emergency Departments at the St. Clare's and Janeway maintain their current levels of productivity.

We have set the General site's productivity target at the level achieved in 1999/2000, 2.43 worked hours per visit, which is between the top quartile and median performance levels of the peer hospitals. This would result in a reduction of 12.66 FTEs.

Upon consolidation and redevelopment of the emergency sites an overall productivity target of 1.98 worked hours per FTE, which is slightly better than top quartile performance should be achievable. This target is derived by maintaining the current Janeway's and St Clare's productivity (which are within the top quartile) and targeting the General's productivity at the top quartile level (2.09 worked hours per visit). This would lead to an additional reduction of 9.80 FTEs (of which 3.0 FTEs we have accounted for in the Telephone Advice Service and Poison Control Line)

It is recommended that:

(48) The Vice President Patient Care Services should discontinue the Janeway Emergency Department Telephone Advice Service.

(49) The Vice President Patient Care Services should establish a 1 800 poison control line by contracting the service with a larger paediatric hospital.

(50) The Vice President Medical and the Chair of the MAC should ensure that the appointment of all specialists includes clear delineation of on-call service responsibilities and that these responsibilities are fulfilled.

(51) The CEO should initiate the planning and development for the consolidation of Adult and Paediatric Emergency Services into a single site operating as a single Emergency Department at the Janeway/Health Sciences Centre.

(52) The Director of Emergency Services should establish productivity target of 2.43 worked hours per visit level for the General site's Emergency Department.

(53) The Director of Emergency Services should target an overall productivity level of 1.98 worked hours per visits upon consolidation and redevelopment of ER sites.

5.1.3 Operating Rooms/PARRs

Overview

HCCSJ surgical services are comprised of paediatric surgical services at the Janeway, and adult surgical services at the General and St Clare's sites. There is crossover of surgical staff primarily between the General and St Clare's, with some specialty coverage with the Janeway.

The surgical suites and perioperative program are administered centrally but function as separate entities. The services are divided along clinical lines. With the closure of the Grace Hospital all Women's Health service were transferred to the HSC. This provided proximity to the neonatal and paediatric services at the Janeway.

The following exhibit presents the HCCSJ's distribution of ORs, PARR and SDC beds, surgical services and regular booked hours of operation per site.

Exhibit 5.4
Distribution of OR/PARR/SDC Services per HCCSJ Site

	St. Clare's	General	Janeway
Number of ORs	7	9	5
Number of PARR Beds	14	16	6/4 +1
Surgical Day Care Beds	10	19/8	8
Main OR Surgical Services	General Surgery Orthopaedics ENT Vascular Thoracic Oral Surgery Plastics Dentistry	General surgery Orthopaedics Gynaecology Ophthalmology Urology Neurosurgery Cardiac Plastics Dentistry	General Surgery Orthopaedics ENT Ophthalmology Urology Neurosurgery Cardiothoracic Plastics Dentistry
Surgical Day Care Services	Ambulatory surgery in the Main OR. Few minor local procedures.	Support for the Main OR and 2 ORs in the unit. Multiple local procedures, lithotripsy & DI preparation.	Prep and Recovery for the OR and DI.
Main OR Regular Days/Hours	Elective 0800 - 1600 M-F Urgent/Emergent 1530 – 2300 M-F 0800 – 1600 S/S/H	Elective 0800 - 1600 M-F Urgent/Emergent 1530 – 2300 M-F 0800 – 1600 S/S/H	Elective 0800 - 1600 M-F Urgent/Emergent 1530 – 2300 M-F 0800 – 1600 S/S/H
Surgical Day Care Regular Days/Hours	0700 – 1600 M-F	0700 – 1800 M-F	0700 – 1700 M-F

The PARR at both the General and St. Clare's sites also provide services to electroconvulsive therapy and cardioversion, in addition to providing recovery of OR patients.

The Surgical Day Care Unit at the General site has 8 operating and procedure rooms. One OR is for ophthalmological local procedures and one is used for General Anaesthetic gynecological procedures. The remaining 6 are used for other ambulatory tests and procedures that include urology, plastic surgery, general surgery. Preparation of patients for DI and lithotripsy are also done here. Anaesthesia also utilizes this unit to perform pain management procedures such as epidural and regional blocks. There is an 8 bed primary recovery room and a 19 bed prep/recovery area.

The St Clare's SDC unit has very limited space to perform a few minor procedures requiring local anaesthesia. Its responsibility is to prepare and receive ambulatory patients from the OR.

The Janeway SDC currently functions as both the SDC and PAC at the present time. There are two areas for recovery of patients that are being partially utilized. A 6 bed primary recovery room with an additional isolation bed, and 4 bed unit in the SDC which is not being used at this time.

The patients that are being discharged on the same day of surgery are returned to the SDC.

Of the five Janeway ORs three are being used each day.

Main OR volumes per site are presented in the following exhibit.

Exhibit 5.5
Main OR Case Volumes by Site

		Main OR Cases		
Site	**Fiscal Year**	**Inpatient Cases**	**Outpatient Cases**	**Total**
St. Clare's	1999/2000	1803	981	2,784
	2000/01	2,954	2,239	5,193
	2001/02 F	3,221	2,710	5,931
Grace	1999/2000	2,970	3,207	6,177
	2000/01	1,077	810	1,887
	2001/02 F			0
General	1999/2000	4,338	2,571	6,909
	2000/01	4,534	3,860	8,394
	2001/02 F	4,634	3,897	8,530
Janeway	1999/2000	1,453	2,659	4,117
	2000/01	1,347	2,689	4,036
	2001/02 F	1,039	2,518	3,557
Total HCCSJ	1999/2000	10,569	9,418	19,987
	2000/01	9,912	9,598	19,510
	2001/02 F	8,894	9,125	18,019

While the overall main OR Case volumes have been decreasing (a 9.9% reduction), the number of outpatient cases performed at the General site's separate day surgery OR have increased as presented in the following exhibit:

Exhibit 5.6
Outpatient SDC Volumes

Fiscal Year	General		St. Clare's
	Cases	Visits	Visits
1999/2000	6,438	15,795	3,241
2000/01	7,022	15,620	4,212
2001/02 F	8,095	15,549	4,238

The current year to date (Oct 2001/02) staffing in the Main OR and PARR is reported as 174.26 FTEs, compared to a staffing compliment of 186.93 FTEs in 1999/2000 (a 6.8% reduction).

Surgical Day Care staffing is reported as 51.48 FTEs for the current fiscal year to date, compared to 38.01 FTEs in 1999/2000 (a 35% increase). The cases performed in the General SDC unit have increased by 25.7% and the visits at St. Clare's SDC unit have increased by 30.7%. since 1999/2000.

Staffing is based on the number of OR theatres scheduled which varies with surgeon/ anaesthesia availability.

Operations

Some key issues for the Operating Room and Recovery Rooms include the following:

- There are incomplete procedure sets for some procedures. This defeats the efficiencies of the "case cart" system and contributes to lost/misplaced/unreturned instruments and equipment and excessive flash sterilization.
- There is no provision for the tracking of surgical instruments. This is a particular problem with the Janeway and other surgical services with delicate equipment that gets lost or damaged. This leads to delays and cancellations at the last minute and promotes hoarding.
- Standard policies and procedures for elective OR bookings have not been established.
- There is no policy that establishes a cut off time for the release of OR blocks. Criteria and time frames for scheduling elective surgery have not been established.
- There are inefficiencies, excess overtime (delayed cases), poor OR utilization as a result of booking elective cases without sufficient time for proper preparation.
- There are consistent delays in the starting of urgent procedures following the elective OR lists. Nurses and patients are often waiting for surgeons and anaesthetists to arrive.

- The nurse scrubbed for a procedure should remain scrubbed for the duration of the procedure unless it is greater than 4 hours. The changing of staff part way through a procedure is costly in delays and equipment and increases traffic in the ORs making infection and counting errors more likely.
- The specimens from the OR Suite to the laboratories are often delayed because of transportation and/or held up in 'sorting area'. A methodology of streamlining the process, particularly for OR specimens needed immediately pre-op (i.e. pregnancy) needs to be instituted.
- Monitoring of OR utilization should be strengthened, with reassignment of OR time between surgeons adjusted according to utilization.
- At the General site SDC there are some services that have a consistent number of urgent consultations and procedures that are added to the scheduled list. This results in SDC nursing staff needing to stay overtime at great expense. These add-on cases need to be tracked regularly and analyzed to determine the most cost effective approach to staffing (scheduled versus overtime).

HCCSJ's OR's are less efficient than the median & mean of the peer group

Operating Room and PARR productivity is measured and compared as the total worked hours per case and visit, respectively. HCCSJ's OR performance as compared to the peer teaching hospital range is presented in the following exhibit.

Exhibit 5.7
Operating Room Performance Comparisons (Worked Hours per OR Case)

		Total HCCSJ[68]	St. Clare's	Grace	General	Janeway
HCCSJ	1999/2000	11.43	13.33	8.63	13.21	-
	2000/01	12.18	12.49	7.31	13.09	-
	2001/02	12.05	12.15	-	12.42	10.99
Peer Range 2000/01	Minimum	7.81	7.81	7.81	7.81	7.81
	Top Quartile	9.25	9.25	9.25	9.25	9.25
	Median	12.04	12.04	12.04	12.04	12.04
	Bottom Quartile	15.32	15.32	15.32	15.32	15.32
	Mean	12.28	12.28	12.28	12.28	12.28

Both the St. Clare's and General site OR's productivity is worse than the median and mean ranges of the peer teaching hospital group[69]. Overall HCCSJ uses 12.05 hours per case which is more than both the top quartile (9.25 hours/case) and the median performance (12.04 hours/case) of the comparator teaching hospitals.

The ORs are budgeted with 3 RNs per room and 4 RNs for cardiac cases. An average staffing of 2.5 per room is a more common practice.

The productivity of the Janeway OR at 10.99 worked hours per case is between the paediatric OR productivity reported by the two available comparator hospitals. Only two peer hospitals reported paediatric ORs separately. The Calgary Children's Hospital and McGill Paediatric OR reported 7.8 and 17.9 worked hours per case respectively.

HCCSJ's PARR is less efficient than the median & mean of the peer group

HCCSJ's PARR performance as compared to the peer teaching hospital range is presented in the following exhibit.

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[68] 1999/2000 and 2000/01 excludes Janeway. In those years Janeway reported combined OR/PARR data.

[69] Like many of the comparisons, we are unable to control for the acuity of the cases in the ORs.

Exhibit 5.8
PARR Performance Comparisons (Worked Hours per OR Case)

		Total HCCSJ[70]	St. Clare's	Grace	General	Janeway
HCCSJ	1999/2000	3.10	4.34	2.59	2.93	-
	2000/01	3.73	4.55	2.70	3.24	-
	2001/02	3.48	4.01	-	3.54	2.46
Peer Range 2000/01	Minimum	2.80	2.80	2.80	2.80	2.80
	Top Quartile	2.88	2.88	2.88	2.88	2.88
	Median	3.31	3.31	3.31	3.31	3.31
	Bottom Quartile	3.85	3.85	3.85	3.85	3.85
	Mean	3.44	3.44	3.44	3.44	3.44

The overall HCCSJ hours per visit are between the median and bottom quartile performance level of the peer group of hospitals. As compared to 1999/2000, the current hours per visit have increased by 12.3%.

St. Clare's PARR productivity is significantly below the bottom quartile performance level of the peer teaching hospitals. The acuity of the patients does not warrant the significantly higher worked hours per case as compared to the peer group and to other HCCSJ sites. The acuity of cases is comparable between the St. Clare's and General sites, since the higher acuity cases at the General tend to be transferred to the ICU. The current hours per case are 7.6% less than 1999/00.

The St. Clare's PARR nurses are assigned by anaesthetist and are responsible for the care of that aneasthetist's cases. This approach to nurse assignments is more labour intensive than a zone based model. The PARR should adopt a zone based system of assignment with a more appropriate ratio of nurses to patients (such 1 RN to 3 patients). This ratio would fluctuate depending upon day of week, time of day, case volumes and types of cases.

The General site's PARR productivity is between the peer median and bottom quartile. Since 1999/00 the hours per visit have increased by 20.9%.

There are opportunities to standardize nursing practice and balance staff across sites.

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[70] 1999/2000 and 2000/01 excludes Janeway. In those years Janeway reported combined OR/PARR data.

Surgical Day Care is less efficient than the bottom quartile of the peer group

Surgical Day Care's productivity is measured as worked hours per visit and is presented in the following exhibit.

Exhibit 5.9
SDC (OR/PARR Included) Performance Comparisons (Worked Hours per OR Case)

		Total HCCSJ	St. Clare's	General
HCCSJ	1999/2000	3.05	2.25	3.22
	2000/01	3.84	2.70	4.15
	2001/02	3.99	3.13	4.22
Peer Range 2000/01	Minimum	0.75	0.75	0.75
	Top Quartile	1.83	1.83	1.83
	Median	2.38	2.38	2.38
	Bottom Quartile	3.48	3.48	3.48
	Mean	2.93	2.93	2.93

These comparisons are based on comparisons with other SDC functional centres where OR/PARR activity is included. It is the degree and scope of this activity between organizations that make comparisons of difficult. The magnitude of difference between HCCSJ and peer ranges would suggest that there are opportunities to improve productivity.

Impact of Facilities and Equipment on Departmental Efficiency

The impact of facilities and equipment on the performance of OR and PARR includes the following:

- A "SurgiLift" system should be considered to reduce the number of personnel required to transfer patients by reducing the reliance on porters in lifting/transferring patients.
- Janeway's humidification system needs to be repaired to eliminate fog forming during cases. This has lead to case delays/cancellations.
- There is no ventilation hood in the frozen section room at the Janeway to control toxic fumes from the reagents.
- There are insufficient instrument sets to perform the number of scheduled procedures without 'flashing'.

Pre Admission Clinic

All patients having elective surgery and requiring an anesthetic should be processed through the (PAC). Benefits to be realized include:

- Minimizes potential OR case cancellations/delays, as a result of uncompleted assessments, tests, etc.
- Patients are better informed, educated and prepared for surgery

- Allows for improved planning and scheduling of services required for the perioperative period and discharge

Anaesthesia attendance in the PAC is essential. Medical practise has changed. The preoperative evaluation of complex patients is now within the preview of the anaesthetist. The decision on the type of anaesthesia and investigation is best determined by the anaesthetist's assessment of the patient. Benefits of Anaesthesia attendance in the PAC include the following:

- Having all elective surgical patients processed through the PAC will provide sufficient volume of patients to provide adequate remuneration for the anaesthetist
- The evaluation of the patient would be consistent since it is done by an anaesthetist within the Department.

The PAC should be responsible for reviewing all bookings to ensure all necessary documentation is in place (booking slips with discharge dates, consultations, history & physicals, signed consents, etc. This was reported as a major source of delays and cancellations.

Pre-Admission Clinic could accommodate increased volumes

Current PAC volume, FTEs and productivity are presented in the following exhibit. Pre-Admission Clinic productivity is measured as worked hours per visit.

Exhibit 5.10
Pre-Admission Clinic Visit Volumes, FTEs & Productivity

		St. Clare's	General
Visits	1999/2000	1,611	3,079
	2000/01	1,989	3,144
	2001/02	1,855	2,957
FTEs	1999/2000	3.51	4.83
	2000/01	4.35	6.51
	2001/02	3.88	5.82
Productivity	1999/2000	3.40	2.58
	2000/01	3.42	3.38
	2001/02	3.27	3.20
Peer Range 2000/01	Minimum	1.46	1.46
	Top Quartile	1.82	1.82
	Median	2.54	2.54
	Bottom Quartile	2.85	2.85
	Mean	2.48	2.48

Both Pre-Admission Clinics are currently operating well below the bottom percentile performance level of the peer group. To achieve the top quartile performance level staffing reductions of 1.72 FTEs and 2.50 FTEs would be required at the St. Clare's and General sites respectively. Conversely, an additional 1,472 visits at St. Clare's site and 2,234 visits at the General site could be accommodated operating at the top quartile performance level.

Opportunities to Improve Productivity

Opportunities to improve the overall performance of the Perioperative Program include the following:

- Developing and enforcing improved OR booking and scheduling policies and procedures, such as:
    - Closing regular assigned bookings earlier. Bookings should be closed 5 business days before surgery.
    - A Waiting List should be created in the Booking Office of unscheduled cases that require surgery. Surgeons of the patients on this list should be offered any unbooked/unassigned time on the day of closure (5 business days) of the list, on a first come first served basis.
    - Requiring a Date of Discharge should be mandatory at the time of booking for elective patients. This will allow surgical wards to predict nursing requirements and bed availability
- The PAC should review all bookings for elective surgery 4 business days before the scheduled surgery to ensure that all documentation and examinations are complete. Incomplete records should be corrected or the case rescheduled.
- The OR Committee should establish an OR utilization target of 85% of assigned time at minimum, it should review OR utilization by each surgeon on a quarterly basis and adjust the distribution of OR time accordingly.
- The Surgical Program Director should investigate ways to improve the 'start and turnaround times' in the ORs.
- The Surgical Program Director and the Chiefs of Surgery and Anaesthesia should standardize all pre-op patient preparation procedures such as: starting of pre-op IVs, pre-op antibiotics, transportation (to the holding area) and immediate pre-op interview by the anaesthesia staff
- The OR Committee should appoint an OR Monitor/Ombudsman on a rotation basis to review any

scheduling disputes, after hours surgery activity and present a report to the OR Committee at its regular monthly meeting of issues during the prior period.

- Establishing a bed reservation system will expedite the discharge of patients from PARR.
- The Surgical Program Director and Director of Admitting should establish a bed reservation system for all elective surgical patient admissions.
- Transfer of patients from the OR to the PARR by the anaesthetist and the assistant improves case turnaround and patient flow through the OR.
- Patients should walk to the OR waiting area after preparation. This will obviate the necessity of being transported by a porter.
- The patient should be seated in the OR waiting area. This is more dignified and requires less space. The patient can then walk to the OR with the Nurse. Those patients requiring transfer by wheelchair or stretcher can be attended to by the portering staff.
- The Surgical Program Director should standardize nursing practice across PARRs and evaluate the potential to better distribute PARR resources across sites.
- The Department of Surgery should investigate the establishment of a Short Stay Unit (SSU), open from Monday to Saturday AM., specifically for patients that can be discharged on Saturday. The unit will save nursing days on the weekend, be used to prepare patients for the OR that are going to be admitted. This will free up space in the SDC to deal with the ambulatory patients.
- Clinical pathways should be developed for all procedures requiring admission.
- The use of the Caseroom should be increased. Post partum tubal ligations and incomplete abortions should be directed away from the Main OR. This will relieve congestion and reduce the waiting for the emergency and urgent cases.
- The weekend and holiday on-site staffing regular hours of coverage should be shifted to later in the day to coincide more closely with Emergency Room activity. Currently there are idle times in the mornings when urgent cases have not been booked (some surgeons plan and book "urgent" cases for the mornings since this idle time is recognized). Emergency cases typically

arrive in the afternoon and after 1600. This often leads to call-ins that can contribute to higher overtime costs. The Surgical Program Director should evaluate the need to revise the hours of coverage for weekends and holidays to coincide more closely with Emergency Room activity and possibly shift the start time to later in the day.

- The Surgical Program Director should investigate the potential to stream patients away from the General Site's SDC ORs that are having procedures performed in the unit that do not require the level of resources of the SDC. (i.e.: more than local anaesthesia.)
- The Surgical Program Director should track the number of "added" consultations and procedures performed in the SDC and establish a staffing schedule that minimizes the use of overtime.
- The Surgical Program Director and Director of Laboratory Services should investigate ways to improve the turnaround of OR specimens, particularly those needed immediately pre-op (i.e. pregnancy).

Immediate Short-Term Cost Saving Opportunity

The Department of Anaesthesia is currently in a fee dispute with the government and is using various work-to-rule tactics as a means of voicing their discontent. It was reported that there is one or more OR list closed regularly by anesthesia and these closures would equal at least 1 OR, but happen without enough warning for the organization to react efficiently. The effect of this is felt throughout the organization and has significantly affected the efficiency of many services. While this situation continues, rather than suffer the current unpredictability of anaesthesia coverage, we recommend that one OR should be closed and the remaining OR time should be redistributed equitably among the surgical departments. This should not reduce surgical volume since one OR is effectively closed now in any case. When anaesthesia coverage is more predictable the OR can and should be reopened and surgical volume restored to historical levels. This would result in a temporary saving of 3 FTEs support personnel.

Departmental Staffing Requirements

There are significant opportunities to improve the overall productivity within the Perioperative Program through implementation of the initiatives described above. Implementation of these initiatives and associated recommendations should lead to improved levels of productivity.

To achieve the top quartile performance level for the O

Operating Rooms and PARR the HCCSJ would need to reduce staffing by 38.0 FTEs, a reduction of 21.6%. We believe reductions of this magnitude are not warranted and would severely impact quality of care.

Departmental Staffing Requirements

Based on a review of current operations and opportunities, the following specific productivity targets have been established for HCCSJ:

- The overall PARR productivity target has been set at 3.10 worked hours per case. This is equivalent to the performance level achieved in 1999/2000 and is between the top quartile and median performance level of the peer hospitals. This would result in a reduction of 3.77 FTEs. The hospital should consider a more consistent practice and more even balance/distribution of PARR FTEs between sites. Peer hospitals within the top quartile are London Health Sciences Centre and Sunnybrook and Women's Health Science Centre.
- The St. Clare's and General site's OR productivity target has been set at the peer median performance level of 12.04 worked hours per case as compared to current levels of 12.15 and 12.42 worked hours per case, respectively. This would result in an overall staffing reduction of 2.44 FTEs. Peer hospitals within the top quartile performance level are London Health Sciences Centre, The Ottawa Hospital, Calgary Children's Hospital and the Capital Health Authority in Edmonton. We believe that the initiatives identified in this report would lead to improvements that would lead to a productivity level better than the median target selected. However, these resources should be directed towards the PAC, if required.

The division of the types of procedures being done at each site has been completed and there is no apparent need to change this configuration at this time.

It is recommended that:

(54) The Chief of Anaesthesia should ensure that an anaesthetist is present in the Pre-Admission Clinic as part of the evaluation team.

(55) The OR Committee should redevelop its elective booking policies and practices to provide for more equitable, efficient and effective use of hospital resources.

(56) The Chief of Surgery and the Surgical Program Director investigate the feasibility and desirability of reorganizing some of the surgical beds for a Short Stay Unit (SSU).

(57) The Surgical Program Director and the Director of Materials Processing should establish an instrument tracking system to monitor and correct deficiencies.

(58) The Surgical Program Director, Chief of Surgery and the Director of Materials Management should ensure that there are sufficient instruments and equipment to complete the scheduled volume of daily OR surgery.

(59) The Chief of Obstetrics, Surgical Program Director and Director of Women's Health should transfer all post-partum tubal ligations and 1st trimester D&Cs to the Caseroom.

(60) The Chief of Obstetrics & Gynecology, Surgical Program Director and Director of Women's Health investigate the potential of performing hysteroscopies in the Women's Health Centre under local anaesthesia.

(61) The Surgical Program Director should adopt a policy that the scrub nurse remains scrubbed for a case to its completion unless it is greater than 4 hours.

(62) The Vice President Patient Services should ensure that the humidification system in the Janeway ORs is rectified immediately.

(63) The Surgical Program Director should implement a zone based coverage model for the St. Clare's PARR.

(64) The Surgical Program Director should establish an overall PARR productivity target of 3.11 worked hours per visit.

(65) The Surgical Program Director should establish St. Clare's and General site OR productivity targets of 12.04 worked hours per case.

5.1.4 Critical Care Units

Overview

HCCSJ Critical Care Services are distributed across sites as noted in the table below.

Exhibit 5.11
Critical Care Bed/Day Distribution

	St. Clare's	General
Intensive Care		
ICU Beds – M/S	10	14
CVICU Beds		8
IMC Beds	4	8**
Special Care Beds	7*	4***
Patient Days 00/01	3,299	6,010
Coronary Care		
CCU Beds	8	12
Patient Days 00/01	2.039	2,298

*4 beds on Vascualar unit, 3 beds on Head and Neck (ENT)

** Cardiac Surgery Step Down

*** Neurological Special Care

Operations

The key observations and findings from the review are as follows:

Intensive Care Units

Both ICUs are combined Medical Surgical ICUs under the control of the Intensivist on-call for the week. There is a rotation of 9 physicians who rotate call through these closed units, including the CVICU at the General site.

Special Care Units

There are a number of special care units/step-down (Intermediate Care-IMC) units throughout the organization. It appears the majority of the special care units provide support to surgical services. At the St. Clare's site there is the following:

- Intermediate Care (IMC) - 4 beds (with capacity for 6 beds). Admission and discharge is under the control of the Department of Surgery. This is a level 2 unit with capability for monitoring, including invasive blood pressure monitoring.
- There are 2 separate Special Care Units (Step Down Units). There is a 4-bed unit on the Vascular Ward and a 3-bed unit on the ENT (Head and Neck) ward. These units allow 1:2 nursing care but none are equipped for any direct monitoring (telemetry is available). These units are under the direction of the surgical staff.

At the General site the Special Care Units include:

- Cardiac Surgery Step Down Unit - This is an 8 bed unit that allows 1:2 ratio of care but no direct monitoring, no infusion medications. Telemetry is available. This 8 bed unit (one very large room) is part of a 48 bed ward (20 cardiac surgery beds including this 8 bed unit, 28 cardiology beds).
- Neurosurgical Special Care Unit – This is a 4 bed unit that allows 1:2 ratio of care but there is no direct EKG monitoring.

Coronary Care Units

St. Clare's CCU patients are admitted under an internist with mandatory consults on all patients by cardiologists. At the General patients are admitted under cardiologists and cared for by cardiologists. These units look after both level 3 and level 2 patients which is atypical for a coronary care unit. This includes ventilated patients, balloon pumps, dialysis, PA catheters, etc. Cardiologists appear to spend most of their time at the General site.

Staffing

There is an impressive degree staffing flexibility

At the St. Clare's site RNs have been trained to look after both ICU and CCU patients. Although nurses are generally assigned to one unit there is an impressive degree of flexibility allowing nurses to be moved from unit to another based on need.

At the General site, there is excellent cooperation between ICU and CVICU re sharing of resources (RNs) and beds. Nurses are trained to work in all level 2/3 units and move freely between units based on patient need (including CCU).

None of the critical care areas collect data that allows any easy analysis of the levels of RN staffing in the various units. (i.e. no data is collected on how many level 2 or 3 patients are in the units at any given time). There is a real need to provide workload and acuity data in the future.

There is a need to re-examine patient to staff ratios

Staffing of the ICUs at both sites and the CVICU at the General site appears more than adequate. For example, in the ICU at the General site the usual booking is for 12 RNs with a separate patient care coordinator (days) or charge nurse (nights). The program may need to re-examine the ratios of staff.

The units are fully staffed – in the past there was a shortage of nurses but this has not been a problem for close to one year.

Staff morale appears very good at both sites.

The use of sick days, compassionate days and family responsibility days is a significant problem and makes staffing decisions and advanced planning in general very difficult. Managers will staff up recognizing that staff calling in to cancel is a common practice. Even so, they will still sometimes have to pay overtime when they need to call someone in on short notice.

The workload for intensivists may become an issue in the future and consideration should be given to developing a system of coverage that includes clinical associates. There are no house staff at St. Clare's.

Impact of Equipment and Facilities

Equipment (beds, monitors, ventilators) are all modern and in good working condition. There is a capital equipment replacement plan. Units have been standardized with Marquette monitors.

Utilization of Critical Care Resources

The area is currently working on a strategy for long-term ventilation outside of the hospital that will free up ICU beds.

Both sites do have ALC patient problems and there are ICU discharge problems re no beds being available on the wards.

The pre-admission program is not functioning at all well because of the shortage of anaesthetists. This makes same day admission for cardiac surgery impossible and adds to the length of stay of these patients.

The number of cardiac step down beds (n = 8) seems large in comparison to the overall size of the cardiac unit (20 beds including these 8).

Coronary Care's productivity is below the bottom quartile performance level

Productivity is measured and compared as the total worked hours per patient day (hrs/ppd).

Exhibit 5.12
CCU Performance Comparisons (Worked Hours per Patient Day)

		Total HCCSJ	St. Clare's	General
HCCSJ	1999/2000	19.70	20.25	19.23
	2000/01	20.67	19.36	21.84
	2001/02	18.29	18.81	17.92
Peer Range 2000/01	Minimum	12.73	12.73	12.73
	Top Quartile	14.20	14.20	14.20
	Median	14.36	14.36	14.36
	Bottom Quartile	16.45	16.45	16.45
	Mean	15.21	15.21	15.21

The magnitude of difference between HCCSJ and peer ranges would suggest that there are opportunities to improve productivity

It would have been optimal to have created one 20 bed CCU at the Health Sciences Centre rather than developing a model with two different CCUs. It is less efficient running a Cardiac Program with two CCU sites, considering that all diagnostics including cardiac caths, angioplasties and open heart cases are done at the one site (Heath Sciences Centre). It would also appear that the St. Clare's CCU is also slightly less efficient, and this may be in part due to running the unit with internists with a variety of backgrounds.

Intensive Care's productivity is below the bottom quartile performance level

Productivity is measured and compared as the total worked hours per patient day (hrs/ppd)[71].

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[71] After we had completed our departmental review, the hospital reported that it has been uniformly reporting orientation hours as worked hours. According to MIS guidelines, some orientation hours (classroom time) should be recorded as benefit hours. As a result in areas that use a significant amount of classroom time for orientation, like the ICUs, our analyses may have used an overstatement of worked hours in calculating current levels of productivity. Unfortunately the time frame and budget for our work on this project did not allow us to investigate and confirm the appropriate allocation of orientation time to worked and benefit hours or to redo our analysis and rewrite our report to account for any appropriate changes. The Department of Health and the hospital may wish to investigate the appropriate allocation of orientation hours further as one of the first steps in implementing the recommendations of this review.

Exhibit 5.13
ICU Performance Comparisons (Hours per Patient Day)

		Total HCCSJ	St. Clare's	Grace	General
HCCSJ	1999/2000	30.19	24.08	33.89	29.16
	2000/01	33.08	33.73	42.15	32.66
	2001/02	30.98	29.91		30.98
Peer Range 2000/01	Minimum	17.99	17.99	17.99	17.99
	Top Quartile	22.44	22.44	22.44	22.44
	Median	24.89	24.89	24.89	24.89
	Bottom Quartile	28.02	28.02	28.02	28.02
	Mean	25.23	25.23	25.23	25.23

The magnitude of difference between HCCSJ and peer ranges would suggest that there are opportunities to improve productivity.

There are a number of step down units throughout the organization. As well, there are intermediate care beds for surgical patients at the St. Clare's site. All are not well utilized. It would be more efficient to close the special care unit beds at St. Clare's and increase the number of IMC beds for use by both medicine and surgery. This would also provide an appropriate resource to care for level 2 medical patients.

Consideration should be given to increasing the number of beds in the IMC unit at St. Clare's to 6 and making this a closed unit under the control of the intensivists. The program should change two of the three special care units to ward beds and leave a total of 4 beds for step down for all of surgery. The intensivists would use admission criteria based on level 1, 2, 3 classification and would likely make better use of resources. As noted above this model would also create a place for sick medical patients (i.e. the IMC would be a mixed med-surg level 2 unit).

Departmental Staffing Requirements

There are significant opportunities to improve the overall productivity within the Critical Care Program. Consolidating CCU resources and creating one 20 bed unit at the General site would result in significant savings.

Coronary Care

It is likely the CCU data may not be reliably compared because of the atypical practice of caring for level 3 patients in both CCUs at HCCSJ.

To achieve the top quartile performance level for the CCU, the HCCSJ would need to reduce staffing by 15.51 FTEs, a reduction of about 22%. Peer hospitals within the top quartile are the Kingston General Hospital and The Ottawa Hospital. We believe that the productivity target for coronary care should not go beyond the median percentile (14.36 worked hours per patient day) given the patient care practices and processes at HCCSJ. This would still result in a significant reduction of about 14.90 FTEs. We are proposing an initial productivity target equivalent to the peer group mean that would result in a staffing reduction of 11.69 FTEs.

Intensive Care

To achieve the top quartile performance level for the ICUs, the HCCSJ would need to reduce staffing as follows:

St. Clare's site– 15.1 FTEs (25 %)

General site – 34.19 FTEs (27%)

We believe that the staffing of ICUs at he current first quartile performance of the peer hospitals is not appropriate. It might have a detrimental impact on the quality of ICU care. We suggest that the hospital set a target for ICU productivity at the median performance level of the comparator hospitals or 24.89 worked hours per patient day. This would provide a decrease of 10.13 FTEs (18%) at the St. Clare's site and 24.38 FTES (20%) at the General site.

It is recommended that:

(66) VP Patient Care Services, The Program Director, and the Clinical Chief should consolidate CCU services and create one 20-bed CCU at the General site.

(67) VP Patient Care Services, The Program Directors, and the Clinical Chiefs should increase the number of beds in the IMC unit to 6 and make this a closed unit under the control of the intensivists.

(68) VP Patient Care Services, The Program Director, and the Clinical Chief should change two of the three special care units to ward beds and leave a total of 4 beds for step down for all of surgery.

(69) The Program Director, and the Clinical Chief should reduce the number of cardiac step down beds by 4 and hold to 16 cases per week.

(70) The Program Director should establish an Intensive Care Unit productivity target of 24.88 worked hours per patient day.

(71) The Program Director should establish a Coronary Care Unit productivity target of 15.20 worked hours per patient day.

5.1.4 Obstetrics

Obstetrical Services are provided at the General site and include Labor and Delivery (L&D) and combined care/post partum. The intra partum service is the referral centre for high risk obstetrical care for the province. Nursery services are located at the Janeway site, but there do not appear to be any issues associated with the distances between these services.

Productivity for obstetrics is within the top quartile

Productivity is measured and compared as the total worked hours per patient day (hrs/ppd).

Exhibit 5.14
Obstetrics Performance Comparisons

		Obstetrics
HCCSJ	1999/2000	8.85
	2000/01	8.50
	2001/02	8.88
Peer Range 2000/01	Minimum	7.77
	Top Quartile	9.22
	Median	10.63
	Bottom Quartile	11.23
	Mean	10.43

This service is functioning very efficiently within the top quartile. Following review, we would suggest no changes to the staffing for this area.

5.2 Nursing Services

Nursing Administration

This organization has been through several years of turmoil. Mergers, construction, strikes and a nursing shortage have all taken a toll on the staff. While the management recognizes that further efficiencies can be made they believe a period of stabilization is necessary.

There are 10 clinical programs reporting to 3 different Vice Presidents. Each program has an Administrative Director and a Clinical Chief. Each of the programs varies in size and scope of activities. The management structure could be streamlined by having Administrative Directors manage more than one program.

This would result in a reduction of 3.0 FTE Administrative Director positions, and potentially enhance inter-program interactions through shared management. This reorganization could be completed by the end of the current fiscal year (2001/02).

Looking at comparisons with peers suggests there is opportunity to reduce the overall nursing management structure. The following exhibit presents HCCSJ Nursing Administration's net operating costs[72] as a percentage of total inpatient net operating costs.

Exhibit 5.15
Nursing Administration Cost Performance Comparisons

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[72] Net operating costs = gross operating costs less recoveries, equipment and depreciation costs.

		Nursing Admin. %
HCCSJ[73]	1999/2000	4.41%
	2000/01	4.89%
	2001/02	5.03%
Peer Range 2000/01	Minimum	1.35%
	Top Quartile	2.78%
	Median	3.62%
	Bottom Quartile	5.00%
	Mean	4.04%

The net cost of nursing administration as a percentage of inpatient nursing costs is at the bottom quartile. The recommendations to reduce the number of Administrative Directors and the recommendations made to modify the Professional Practice Model (section 5.3.1 Allied Health) would reduce overall Nursing Administration cost by about 10%.

Nurse Staffing Issues

A significant issue affecting productivity arises from union contracts and arbitrated settlements arising from a nursing strike a number of years previously. They were legislated back to work after a strike in 1999 and there remain hard feelings as a result. The nurse's union is currently in negotiations and further staff cuts are bound to aggravate the animosity.

The Hospital Corporation has dealt with retention issues by making 95% of all nursing jobs full time. Vacancies are well down so there should be some savings in the recruitment budget. However, the lack of part time and particularly casual staff presents problems in using the mechanism of flexible staffing to manage workload shifts. Casual positions should be increased to at least 20% of nursing hours to provide more flexible staffing options.

The language of the contract currently allows for any nurse to apply to any posting in the hospital regardless of interest or qualifications. Nurses can win positions based on seniority alone and since full time positions are highly desirable from the nurse's perspective, they transfer into positions and may transfer out soon after or during orientation to another position which more closely matches their professional interests and skills. As a result, considerable time and effort is wasted in orientation of staff who leave within 3- 6 months. This is a significant problem and has created significant cost to the organization. For example, it was reported that the NICU oriented 20 new nurses, 15 left within 3- 6 months. Each of these orientees were given 6 weeks of orientation so 90 weeks or about 675 hours was wasted in this unit alone. This appears to be a problem throughout the patient care units. Division Managers feel helpless to change this language although by interviewing each applicant they try to ensure applicants are fully aware of expectations. While this approach has discouraged a few apparently inappropriate applicants, often young nurses who want a full time job will take whatever is available until something more to their liking is available.

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[73] For comparison purpose Medical Staff remuneration/salary costs were removed from HCCSJ's Nursing Administration costs.

Another issue affecting productivity is absenteeism. Absenteeism due to sick time is very high. The management staff all seemed very committed to attendance counselling and some indicated that their sick time had improved marginally, however they felt hampered by an attitude of 'entitlement' among their staff. At least in the short-term, it is suggested as a general rule, that the first sick call in an area not be replaced to help reduce the costs associated with a high absence rate.

5.2.1 Medical/Surgical Programs

One measure used to evaluate staffing of inpatient nursing services is the acute inpatient nursing worked hours per weighted case.

Exhibit 5.16
Adult Acute IP Worked Hours per Weighted Case

		Hrs / Wtd. Case
HCCSJ (Adult)	1999/2000	56.82
	2000/01	54.43
Peer Range 2000/01	Minimum	28.90
	Top Quartile	37.74
	Median	42.23
	Bottom Quartile	44.51
	Mean	41.53

HCCSJ is using 54.43 worked hrs per weighted case[74] compared to the top quartile benchmark of 37.74 worked hours per weighted case. Even allowing for problems with coding practices and data consistency, this comparison suggests there is significant opportunity in the inpatient care areas to improve efficiency. Peer organizations that are in the top quartile include Hamilton Health Sciences Centre, Kingston General Hospital, and London Health Sciences Centre.

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[74] Hours of allied health staff such as physiotherapists, occupational therapists, etc., have been removed from HCCSJ's reported data.

Medical Program

The medical program runs high occupancy rates and cites many discharge problems with the community. Overflows in emergency are usually medicine and cardiology patients. High occupancy rates can be a significant factor in diminishing the efficiency and effectiveness of the hospital's nursing staff. Patients may often be placed off service and may not receive care from the most appropriately trained staff. High occupancy can also impact support services. If length of stay is reduced, here will be an opportunity to reduce the overall number of patient days and thus reduce occupancy rates.

It might be suggested that staffing levels may need to be increased when length of stay is decreased as the average acuity of patients who remain in hospital is likely to be higher. However, as will be seen, the hours per patient day at HCCSJ are currently higher than at teaching hospitals with significantly shorter ALOS. Current staffing levels should be sufficient to accommodate the increase in average acuity of the patient days remaining after a decrease in ALOS.

Medical program services productivity is below the bottom quartile performance level

In these analyses, productivity is measured and compared as the total worked hours per patient day (hrs/ppd). HCCSJ performance comparisons are presented in the following exhibit.

Exhibit 5.17
Medical Program Hours per Patient Day Comparisons

		1999/2000	2000/01	2001/02
HCCSJ	712100000 Medical Inpatient	7.26	8.58	8.24
	712101010 General Medical - Unit # 1 – Grace	7.01	19.95	
	712101050 General Medical - Unit # 5 - St. Clare's	7.37	7.79	6.90
	712101060 General Medical - Unit # 6 - St. Clare's	6.56	6.74	6.97
	712102000 Endocrinology - General	6.77	7.00	6.69
	712104000 Cardiology - St. Clare's	6.20	7.44	7.45
	712106000 Neurology - General	6.79	7.25	6.64
Peer Range 2000/01	Minimum		5.33	
	Top Quartile		5.92	
	Median		6.80	
	Bottom Quartile		7.43	
	Mean		6.78	

The magnitude of difference between HCCSJ and peer ranges would suggest that there are significant opportunities to improve productivity. Peers that are at or below the top quartile for medical services are Kingston General Hospital, Hamilton Health Sciences Centre and Sunnybrook and Women's College Health Science Centre

To achieve the top quartile performance level (5.92 hrs/ppd) across each of the medical program inpatient functional centres, the organization would need to reduce staffing by approximately 44 FTEs (14.5%). We have established a performance target equivalent to the top quartile performance level only for the 712100000 Medical Inpatient functional centre. This would result in an overall reduction of 21.13 FTEs for the medical inpatient program services.

Surgical Program Services

There is a long length of stay in this program. It is aggravated by issues associated with the same day admit program. This is related to problems with anesthesia coverage. There are also problems with discharge to the community.

Currently the Gynecology beds are divided between 2 units creating difficult staffing issues. Consideration should be given to consolidating this service onto one unit.

General Surgical Program services productivity is between the top quartile and the median peer quartile

Productivity is measured and compared as the total worked hours per patient day (hrs/ppd). HCCSJ performance comparisons are presented in the following exhibit.

Exhibit 5.18
Surgical Program Hours per Patient Day Comparisons

		1999/2000	2000/01	2001/02
HCCSJ	712201000 General Surgical	7.06	7.54	6.96
	712202000 Orthopaedic (Surgical)	7.35	7.21	7.79
	712203000 Ear, Nose and Throat	0.00	9.71	8.37
	712203500 Gynaecology	6.88	8.35	9.57
	712207500 Urology - General	6.40	7.62	8.04
	712208000 Vascular - St. Clare's	0.00	9.10	9.95
Peer Range 2000/01	Minimum		5.05	
	Top Quartile		6.22	
	Median		7.41	
	Bottom Quartile		8.13	
	Mean		7.33	

There are significant opportunities to improve productivity. Peers that are at or below the top quartile for surgical services are, London Health Sciences Centre, Hamilton Health Sciences Centre and Sunnybrook and Women's College Health Science Centre

To achieve the top quartile performance level (6.22 hrs/ppd) across each of the surgical program inpatient functional centres, the organization would need to reduce staffing by approximately 63 FTEs (17%). We have established a performance target equivalent to the top quartile performance level only for the 712201000 Surgical Inpatient functional centre. This would result in an overall reduction of 11.84 FTEs for the medical inpatient program services.

Ambulatory Services

Ambulatory care is provided on all sites and is spread throughout the physical environment. It is reported that there is a serious shortage of space for adult outpatient clinics.

The only internal saving opportunity observed is in the duplication of lipid clinics on 2 sites. It is recommended that this service be consolidated with a saving of 1 FTE dietician.

There appears to be an opportunity to use the clinic space at the Janeway site more efficiently. If this is true, some of this space could be made available for adult outpatient clinics. This opportunity should be investigated.

The need to enhance the use of the Pre-Admission Clinic is discussed in the review of Operating Rooms/PARR.

It is recommended that

(72) The Vice President Patient Care Services should reduce the number of Division Directors by 3.0 FTEs.

(73) The Vice President Patient Services should increase casual positions to at least 20% to provide more flexible staffing options.

(74) The Program Director for the Medical Program should establish a productivity target of 5.92 worked hours per patient day for the Medical Inpatient Program.

(75) The Program Director for the Surgical Program should establish a productivity target of 6.22 worked hours per patient day for the Surgical Inpatient Program.

(76) The Vice President Medical Services should evaluate the relative intensity of use of outpatient clinic space and reallocate as feasible to balance use among the sites and clinic areas.

5.2.2 Child Health

The Child Health program is delivered at the Janeway site and includes:

- Neonatal Level 11 and 111 nurseries
- Paediatric Medical Unit J4A
- Paediatric Surgical Unit J4B
- Infant/Toddler Unit J4C
- Psychiatry services
- Perioperative Services
- Paediatric Emergency Services
- Neuromotor, Child Development
- Community Mental Health

Scope of Authority and Responsibility of Managers:

There are opportunities to improve the management structure of the Child Health Program and reduce costs. Managers within the Child Health Program have direct reports varying from as few as 20.5 in Community Mental Health to as many as 91.85 in the neonatal division.

There are opportunities to combine divisions and/or responsibilities that would provide a reduced management structure and more consistent spans of management responsibility. For example:

- One possibility is to combine the Neuromotor and Child Development divisions. This would give one Manager about 68 FTEs.
- Another possibility may be to combine the Mental Health division with Community Mental Health. The Community Mental Health Division has strong and innovative programs that appear to be self sufficient and entrepreneurial. The Manager would then have a total of 56 reports of which 25 are in the Community Mental Health Division linked to very specific programs that likely require minimal supervision.

This type of initiative would provide for a reduction of 1.0 FTE Division Manager.

The medical secretaries who are paid through a different budget, are currently the responsibility of the Division Managers of the Janeway. This contributes additional workload for the managers which more appropriately is the responsibility of the Department of Paediatrics or Medical Affairs of the Corporation. It is suggested that the Medical Secretaries not report to the Division Managers. There are no dollar savings directly associated with this initiative. However, if managers can devote more of their time to directing the activity of professional staff, it is likely that more efficient and more effective care processes will result.

There appears to be considerable management time spent in working with Corporate Services, particularly Human Resources. As the number of managers is reduced, Corporate Services will need to provide more efficient support to front-line management staff.

Operations and Staffing

Neonatal:

Currently, the level 11 and level 111 nursery each have an In Charge Nurse from 7pm until 7am Monday through Sunday. It was reported that the average occupancy for the level 111 nursery is 16 patient and for the level 11 nursery is 8 patients. This could easily be managed by one in-charge person on this shift. We fully support the need for separate In Charge/Co-ordinators during the day shift. During the day shift this position supports family teaching, discharge planning, and orientation and staff training which is significant due to contract language. It was reported that in the past year, this unit has oriented 20 new staff of which 15 have already left. This orientation is 6 weeks in length per staff.

Medicine J4A:

Based on our interviews and review of the area it appears the nurse patient ratio on this unit is currently 6 staff (5 RN and 1 LPN) for an average of 11 patients. This is based on a reported average occupancy of 46-75%. Even if 12 beds were used as the average, the nurse patient ratio is 1:2. At full occupancy the ratio is 1:2.6. This unit has a 2 bed constant care room which often has children with eating disorders Assuming that this assignment is given to the LPN, it leaves the balance of the patients for 5 RNs, which is a considerably lower patient:nurse ratio than ratios cited frequently as being standard for paediatric nursing.

This unit has a practice of providing constant care to all first time chemotherapy patients. There is no evidence to support this practice and this should be stopped.

Surgery J4B:

The issues on this unit are similar to J4A. This unit has an average occupancy of about 70 % for an average of 13 patients. It also has a constant care room for up to 2 patients. It was reported that they have 4 RN and 1-2 LPN on the day shift which provides a nurse:patient ratio of 1:2.6 when the census is at 13 and 1: 3.6 when the census is full. If they have 2 LPNs, then the ratio decreases.

Infant/Toddler J4C:

It was reported that the current staffing pattern for this 16 bed unit (average occupancy is reported to be 12 patients), is 4 RNs and 1 LPN providing direct care. Based on the reported average occupancy, the nurse:patient ratio is 1:2.2. This unit has few if any casual staff. It is suggested that this unit reduce by one RN in Charge on the night shift 7 nights per week and share the In Charge role between J4B and J4C.

Psychiatry:

It was reported that the staffing for the inpatient Psychiatry unit appears high. They have 5 staff for 7 patients. There is constant care almost 100% of the time for eating disorder patients. The constant care is staffed by the LPNs most of the time. A comparator organization has a 7 bed acute adolescent unit that has 2 RN's and a Child and Youth Worker for the 7 beds. Also, the unit is currently holding a .5 FTE recreation therapist position, which could be eliminated. Consideration should be given to substituting a Child and Youth Worker for an LPN and the change from a Recreation Therapist would not be felt.

Paediatric ICU/Respiratory Therapy:

This unit is very expensive to staff due to the low census. There are 6 beds with a reported average occupancy of 3. The census for this unit could be increased by implementing policy regarding constant care and possibly by increasing the age of admission. Currently, the Janeway's age limit is 16th birthday. Depending on the numbers of patients who could be admitted between 16-18, this could assist in making the unit more viable. When new admissions arrive, they should be managed by the co-ordinator or the Division Manager. The only indirect measure of acuity is the number of Ventilator days which are low (171 YTD), hence the above recommendation regarding staffing could be facilitated especially if the average daily census does not increase.

It was reported that respiratory Therapy allocates 0.4 FTE for professional activities. This should be reduced to 0.2 FTE and the difference should be allocated to direct patient care and relief. While the savings are not great, it does increase availability of RT for front line care such as assisting with admissions in the PICU etc.

Pulmonary Function assessments done by RTs could decrease by 1 day per week.

Perioperative Care:

It was reported that the OR has 3 Charge nurses, 1 for each OR, 1 Patient care co-ordinator and there is also 1 patient care co-ordinator for each of PACU and Same Day Unit (SDU). Given the volume of cases, it is suggested that 1 patient care co-ordinator could manage the OR, PACU and SDU. The SDU and the PACU could be combined into one unit.

General Operations

The practice of constant care needs to be reviewed. The use of constant care seems to be quite liberal. Despite attempts to transfer all non-mental health patients requiring constant care to the PICU, this has not been successful. The number and type of constant care hours are unknown hence it is difficult to quantify effects of practice change. However, with a 6 bed PICU with an average occupancy of just under 3 patients and a budget of at least $2,000,000 every effort needs to be made to maximize the use of the PICU resources. As well, reasons for the constant care need to be analyzed further in order to ensure it is appropriate for acuity of illness and not just traditional practice.

The age of admission should be reviewed

The age of admission to the Janeway for non-Mental Health patients should be reviewed as a means to decrease the fluctuation in occupancy that makes staffing so inefficient. The current age of admission is the 16th birthday. Increasing the age to the 18th birthday might level out the occupancy, and make the nursing hours more productive.

In addition, this program is disadvantaged by not having a formal workload measurement system. It makes it very difficult to assess acuity and therefore difficult to validate the front line staff concerns about "how busy they are". While each Division Manager works hard to keep workload data in their own area, it cannot be benchmarked against comparative services.

Another feature of the decasualization was the creation of float positions and elimination of almost all casual nurses. For the Child Health program, with a fluctuating census, this is a problem because they are often overstaffed. The changes above are recommended to avoid this situation on a regular basis.

The program for patients with Eating Disorders needs to be defined. These patients are being managed by two different medical specialities, Psychiatry and Adolescent Medicine. Since the Janeway recruited a specialist in Adolescent Medicine, they have seen an increase in the number of Eating Disorder patients on constant care. Each likely has their own approach to management and both utilize considerable constant care on 2 different units.

There is no question that eating disorders especially in young females is occurring in epidemic proportions and that the care is required, however, the use of evidenced based pathways might reduce the use of constant care and provide more consistency. Both Paediatrics and Psychiatry need to advocate strongly for special funding to support the eating disorders program. The Janeway should develop a business plan for the Management of Eating Disorders and submit to the province for special funding to support this necessary service. The plan should address how patients are triaged between Adolescent Medicine and Psychiatry, integration across the system of care, and continuity across the ages.

The Janeway needs to adopt a process for impact analysis and prioritization of resources prior to recruitment of new specialists. The increase in eating disorders cases arises from the special interests of a new specialist in Adolescent Medicine. New funding was not associated with this appointment nor was the impact on nursing hours anticipated.

Tonsillectomies and Adenoidectomies (T & A) continue to be done as inpatients

As has been discussed in chapter 3 of this report, Tonsillectomies and Adenoidectomies (T & A) are being done as inpatients at the Janeway. The process of care needs to be changed so that the majority of patients are done as Day Surgery not with an inpatient admission. This shift will require considerable effort on the part of administration and Medical Leadership in order to effect this change. This change could result in a reduction of at beds from the inpatient unit and could likely be accommodated in Day Surgery without an increase in resources. If these beds were closed it would increase the occupancy on the Surgery Unit and make it more productive. It is recommended that a task team be established to plan for this change in practice which would include criteria for discharge, how to assess parental readiness to assess for adequacy of fluid intake, pain management, non hospital facilities for overnight stays for families who come from far away and other issues to address barriers to this change.

The Neuromotor and Child Development Divisions both offer travel clinics and provincial wide programs. About .6 FTE hours are being utilized to support these important services 'Close to Home'. The Hospital needs to advocate for support for these clinics as part of their mandate to serve the children of the Province.

Paediatric emergency services are addressed in the section of this report dealing with Emergency Departments.

Pediatric services productivity is below the bottom quartile performance level

Productivity is measured and compared as the total worked hours per patient day (hrs/ppd). The following analysis is based on data provided to the Operational Review Team by the hospital to reflect the workload and staffing in Paediatrics.

Exhibit 5.19
Paediatric Performance Comparisons

		Paediatric ICU	Neonatal ICU	Paediatrics
HCCSJ	1999/2000	40.65	16.77	12.21
	2000/01	43.34	19.64	13.90
	2001/02	52.28	18.48	13.43
Peer Range 2000/01	Minimum	23.31	12.15	8.61
	Top Quartile	29.87	14.39	8.90
	Median	36.44	15.76	10.43
	Bottom Quartile	40.00	16.45	11.40
	Mean	34.43	16.58	10.58

The magnitude of difference between HCCSJ and peer ranges would suggest that there are significant opportunities to improve productivity. Peers that are at or below the top quartile for PICU are the London Health Science Centre (LHSC) McGill, for the NICU, Kingston General Hospital and McGill and for the Paediatric units, London Health Science Centre.

Departmental Staffing Requirements

There are significant opportunities to improve the overall productivity within the Child Health Program through implementation of the initiatives described above. Implementation of these initiatives and associated recommendations should lead to improved levels of productivity.

To achieve the top quartile performance level for the PICU, the organization would need to reduce staffing by 11.56 FTEs (43%). It is recommended that the productivity target be set at the median performance level of 36.44 worked hours per patient day for the next fiscal year with a further improvement in productivity to the top quartile performance level for 2003/04.

To achieve the top quartile performance level for the NICU, the organization would need to reduce staffing by 19.95 FTEs (22%). It is recommended that the productivity target be set at the median performance level of 15.76 worked hours per patient day for the next fiscal year with a further improvement in productivity to the top quartile performance level for 2003/04.

To achieve the top quartile performance level for the Paediatric Inpatient services, the organization would need to reduce staffing by 32.17 FTEs (34%). It is recommended that the productivity target be set at the median performance level of 36.44 worked hours per patient day for the next fiscal year with a further improvement in productivity to the top quartile performance level for 2003/04.

With the current facility configuration, care delivery models and staffing patterns these productivity targets will be difficult to achieve. Small nursing units, low occupancy and requirements for minimum ('station-fill') staffing levels make it very difficult to provide care efficiently. The hospital will need to find ways to better match patient workload to required minimum staffing levels if the productivity levels suggested here are to be achieved.

It is recommended that:

(77) **The Program Director for Child Health should establish a PICU productivity target of 36.44 worked hours per patient day for the 2002/03 and a target of 29.87 worked hours per patient day for 2004/05.**

(78) **The Program Director for Child Health should establish a NICU productivity target of 15.76 worked hours per patient day for the 2002/03 and a target of 14.39 worked hours per patient day for 2004/05.**

(79) **The Program Director for Child Health should establish a Paediatric Unit productivity target of 10.43 worked hours per patient day for the 2002/03 and a target of 8.90 worked hours per patient day for 2004/05.**

5.2.2 Mental Health Services

Mental health services include

- Acute psychiatry
- Geriatric residential care
- Developmental Disabled Unit
- Forensic services

Provincial Review of Mental Health Services

The Department of Psychiatry is looking to the impending review of mental health services in the entire province to deal with their issues. Apparently this review has been launched, although no details were known at the time of the on site review. This will need to be recognized with respect to recommendations regarding mental health services delivered by HCCSJ.

Operations

Services are provided at the Waterford site, St. Clare's, and the General site. Plans are currently under way to close the psychiatry unit at the St. Clare's site. The current plan is to redistribute the savings from this restructuring initiative to other services, predominantly ambulatory mental health services. The savings from this initiative would augment the identified savings that can be realized from productivity improvements. It is recommended that the organization devote some of theses savings to reducing its operating deficit.

At the present time, there are 7 FTE psychologists providing services to acute care. Many organizations have contracted out this service. The organization should review how much service is actually required and explore the feasibility of contracting for this service.

Psychiatry's productivity is below the bottom quartile performance level

Productivity is measured and compared as the total worked hours per patient day (hrs/ppd).

Exhibit 5.20
Psychiatry Performance Comparisons

		Psychiatry	Gero-Psych	Forensics
HCCSJ	1999/2000	6.44	5.11	7.64
	2000/01	8.11	5.48	6.94
	2001/02	7.98	5.09	7.91
Peer Range 2000/01	Minimum	4.65	No Peers	2 Peers
	Top Quartile	5.76		5.63
	Median	6.06		5.63
	Bottom Quartile	6.61		5.81
	Mean	6.93		5.63

To achieve the top quartile performance level for the acute psychiatry service, the HCCSJ would need to reduce staffing by almost 37 FTEs, a reduction of about 28%. The organization has already identified a unit that could be closed that could result in a reduction of about 21 FTEs. There will still need to be a further reduction even if all of the FTE savings are taken from this unit. Plans are to use some of these FTEs for ambulatory service and this is strongly encouraged. It will be a significant challenge for the service to remove this many FTEs from the system and in the interest of patient care and safety it is suggested that the productivity target for the next year be set at the median peer performance. This would mean a decrease of approximately 33 FTEs.

Peer hospitals within the top quartile are the Hamilton Health Science Centre, The Ottawa Hospital and McGill.

It is recommended that:

(80) The Program Director should establish a productivity target of 6.06 worked hours per patient day for the acute psychiatry units.

5.2.3 Rehabilitation and Continuing Care

Overview

This review focused on Rehabilitation. The Continuing Care components of the program, such as the Veteran's Pavilion, the Convalescent/Transition Unit and Protective/Geriatric Assessment and Rehabilitation were not the subject of specific interviews and site visits.

The Rehabilitation and Continuing Care Program delivers services to a variety of clients and patients with disabilities. These disabilities include congenital abnormalities and disabilities acquired through disease or trauma. The program focuses on musculoskeletal and neurological impairments. The model of care is a team-based approach that unifies the work of the patient/client, family, community and health/rehabilitation providers to achieve satisfactory outcomes in terms of quality of life, functional status and community integration.

The Rehabilitation Program is the tertiary referral center for the province of Newfoundland and Labrador for complex neurological and musculoskeletal conditions. It includes such diagnoses as spinal cord injury, acquired brain injury and amputation.

Most of the inpatient and ambulatory services delivered by the Program reside in the Leonard Miller Centre, formerly the site of the General Hospital.

Inpatient days and nursing FTEs are presented in the following table.

Exhibit 5.21
Rehabilitation & Continuing Care Patient Days and FTEs

Site		1999/2000	2000/01	2001/02 Forecast	% Change

Palliative – St. Claire's	Days	2,040	2,140	2,287	12.1%
	FTEs	13.80	14.78	13.57	-1.7%
Miller - Chronic[75]	Days	18,245	17,849	17,607	-3.5%
	FTEs	62.52	69.49	65.09	4.1%
Miller - Intermed.	Days	10,798	13,847	14,542	34.7%
	FTEs	38.15	48.75	51.34	29.5%
Prosthetics	FTEs	14.40	13.41	14.59	1.3%
Orthotics	FTEs	9.26	10.15	9.61	3.8%
Total HCCSJ	**Days**	**31,083**	**33,836**	**34,436**	**10.8%**
	FTEs	**138.13**	**156.58**	**154.20**	**11.6%**

The table above excludes allied health staff members (PT, OT, etc.). Allied Health is described in another section.

The total number of managers in the program should be reduced.

A Program Director and a physician Clinical Chief manage the Program. These managers report to the Vice President, Patient Care Services. Each of the divisions has a division manager who reports to the Program Director. The rehabilitation divisions of the Program are Functional Independence Rehabilitation, Vocational Rehabilitation and Rehabilitation Technology. The continuing care divisions of the Program are the Veterans' Pavilion, the Convalescent/Transition Unit and Protective Care Unit/Geriatric Assessment and Rehabilitation.

It is understood that the Dementia component of the Protective Care Division is going to be removed from the division in the near future. Since this implies a significant reduction in the responsibilities of the Divisional Manager, it should be possible to merge this division with another division, such as the Convalescent/Transition Unit, thereby reducing the total number of managers in the program from six to five.

Physiatry (physical medicine) is a physician resource that is critical to the success of a rehabilitation program. Until recently, the Program did not have a physiatrist. This new addition to the medical staff will not assume any management responsibility and will be solely responsible for providing direct patient care.

The majority of clients served by this program are injured workers. There are a small number of third party insurance cases. In terms of budgeting, the expenses of the Vocational Rehabilitation Division are largely offset by per patient funding from the provincial workers' compensation program.

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[75] Includes Chronic Units 1, 2 and 4 of the Miller Centre. DVA Unit 3 (712952027) excluded from the analyses.

The Program Director has been in her position for about two months. The management style appears to be collaborative and relationships between the director and division managers appear to be constructive and effective. Managers receive annual performance appraisals.

The Program is the province's tertiary referral center for complex neurological and musculoskeletal conditions such as spinal cord injury, acquired brain injury, chronic pain and amputation.

The Vocational Rehabilitation Division treats clients with work-related injuries. It provides a variety of assessment and treatment services. The goal is to use integrated physical, functional and psychosocial rehabilitation services to optimize workplace reintegration.

The Rehabilitation Technology Division creates prosthetics, orthotics and adaptive seating for inpatients and outpatients. The Division delivers service to both adult and paediatric clients.

The Functional Independence Rehabilitation Division delivers tertiary services to the province. It provides inpatient treatment through a 15-bed inpatient unit to facilitate the transition of clients into the community. It facilitates vocational rehabilitation and functional independence for clients.

One of the challenges for the program is that community-based resources are limited, especially in smaller, rural communities. Therefore, clients may be kept as alternate level of care inpatients until appropriate placement can be found or until functional capacity is well enough enhanced so that clients can function in rural communities with poor local infrastructure.

Nursing performance is worse than the top quartile

The table below shows the worked hours per patient day for each area.

Exhibit 5.22
Worked Hours per Patient Day

		Palliative Care Worked Hours per Patient Day	Miller Centre "Chronic" Worked Hours per Patient Day[76]	Miller Centre Intermediate Care Worked Hours per Patient Day
HCCSJ	1999/2000	9.58	5.26	5.41
	2000/01	9.9738	6.10	5.45
	2001/02	8.90	5.52	5.15
Peer Range 2000/01	Minimum	7.99	4.23	3.82
	Top Quartile	8.29	4.24	4.24
	Median	8.58	4.64	4.65
	Bottom Quartile	8.87	4.92	4.92
	Mean	8.58	5.95	5.86

The Palliative Care unit is operating near the top quartile performance level of the peers. The Chronic Care and Intermediate Care units' productivity is worse than the bottom quartile[77]. Staffing reductions of 15.02 and 9.06 FTEs would be required to meet the top quartile performance level of the peer hospitals in the Chronic and Intermediate Care Units respectively. Hamilton Health Science Centre and Sunnybrook & Women's College Health Science Centre are performing within the top quartile performance level.

Management and staff suggested that patients in the program have higher acuity (e.g., lower FIM) scores when they enter the Program. Staff suggests that high levels of acuity warrant higher levels of staffing with professional staff, particularly allied health. However the productivity comparisons exclude allied health staff and there is no apparent evidence that suggests that the acuity of these patients is higher than that of the peer hospitals.

This is the first year that CIHI data specific to rehabilitation have been kept. Therefore, the Program has not engaged in extensive comparison of its operational data with peer rehabilitation programs.

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[76] Includes Chronic Units 1, 2 and 4 of the Miller Centre. DVA Unit 3 (712952027) excluded from the analyses.

[77] The DVA Unit productivity was 4.1008 worked hours per patient day for 2001/02 that is within the top quartile.

Impact of Facilities and Equipment

Most of the inpatient and ambulatory services delivered by the Program reside in the Leonard Miller Centre, formerly the site of the General Hospital. The Veterans' Pavilion is joined to the Miller Centre by a causeway. The inpatient units appear to be clean and well cared for.

The Miller Centre is an old facility. The physical plant seems to be outdated, patient accommodation is quite dated and in need of considerable "freshening up". Key patient care physical therapy areas appear to be outdated and cramped. There were reports from interviews that the program is not well resourced in terms of equipment required to deliver rehabilitation services.

Overall the space is adequate to deliver the scope of services mandated by the program.

Interviews with staff from the Rehabilitation Technology Division suggested that equipment was frequently breaking down and that it interfered with the production of prosthetics.

Opportunities to Improve Performance

Opportunities to improve performance include the following:

- Transitional and continuing care beds are often occupied by ALC patients as a result of infrastructure problems and home care shortages in smaller communities. This somewhat contradicts the earlier statements of higher levels of acuity.
- Only one of care teams has been able to use the Meditech system for interdisciplinary assessments. This allows enhance sharing of information and collaboration. Other teams should also be encouraged to use the system.
- A day hospital program is currently not available which could shift a portion of the current inpatients to receive care on an outpatient basis. Management has developed a business case that identifies a human resource savings of $400,000 annually. This opportunity should be further evaluated.
- The Rehabilitation Technology Division is also a revenue center through sales of prosthetics, orthotics and adaptive seating. The may be some opportunity to increase revenues through by charging higher prices.

Departmental Staffing Requirements

Based on the on-site interviews, observations and comparisons of productivity we have proposed productivity targets equivalent to the median performance level achieved by the peer hospitals for both the Chronic Care and Intermediate Care nursing units. This would result in staffing reductions of 10.8 and 5.1 FTEs respectively.

It is recommended that:

(81) The Vice President Patient Care Services should reduce the number of managers in the Rehabilitation and Continuing Care Program by 1.0 FTE.

(82) The Director of Rehabilitation and Continuing Care should establish a productivity target of 4.64 worked hours per patient day for the Chronic Care and Intermediate Care Nursing Units.

(83) The Vice President, Patient Care Services should develop and present to Senior Management a formal business case, inclusive of one-time renovations costs, operational costs and quality benefits, of implementing a day hospital.

5.3 Therapeutic Services

5.3.1 Allied Health (Rehabilitation Therapies)

Overview

HCCSJ developed and implemented a Professional Practice Model in order to address the implications for allied health of the transition to program management and the gradual elimination of profession-based departmental structure. The model was developed in order to support the practice of professionals within HCCSJ. The ultimate goal of the model is to enhance patient care. The model identifies generic components that are essential to professional practice. Each discipline develops structures to support the generic components within its own profession.

The allied health professions to which the professional practice model applies at HCCSJ are Occupational Therapy, Physiotherapy, Respiratory Technology, Psychology, Clinical Nutrition, Speech Language Pathology and Social Work. Therapeutic Recreation is not included in the model. Pharmacy and Audiology Services are delivered through departmental structures, so they are not represented in the professional practice model.

Allied Health attendances and FTEs are presented in the following table.

Exhibit 5.23
Allied Health Attendances and FTEs by Site by Year

Site		1999/2000	2000/01	2001/02 Forecast	% Change
Acute Areas	Wkld	275,913	267,784	237,300	-14.0%
	FTEs	261.79	290.31	319.09	21.9%
Miller Ctre	Wkld	46,197	53,863	56,622	11.2%
	FTEs	15.53	19.99	20.87	34.4%
Other	FTEs	1.09	0.98	0.95	-12.8%
Audiology	Wkld	4,367	5,076	5,918	35.5%
	FTEs	9.41	11.07	11.85	26.0%
Pastoral C	FTEs	5.07	6.73	6.70	32.1%
Tot HCCSJ	**FTEs**	**292.89**	**329.08**	**359.46**	**22.7%**

Allied health staff members are assigned to programs. For example, there are 63.4 FTE 'Social Workers' assigned to seven of the programs and there are 40.6 FTE 'Psychologists' assigned to four of the programs.

There are chronic shortages in many of the allied health professions. Most noteworthy is psychology, but there are recruitment and retention challenges at the Corporation with respect to of the all allied health professions.

Allied Health performance is worse than the top quartile

HCCSJ uses the National Workload Measurement System for allied health services according to the MIS guidelines as regulated by CIHI. All allied health disciplines are capturing allied health weighted workload and attendances using a common tool. Quality of data, staff compliance with reporting and information systems issues have presented major challenges to the corporation and to this review. (And in our experience are problems in tracking workload and measuring productivity in many allied health functional centres across Canada). This problem has been exacerbated by the decentralization of allied staff under program management structures in many hospitals. There is a lack of confidence in current workload data and productivity statistics based on these data.

The consultants calculated staffing and costs from MIS data by identifying certain occupation classes[78]. For workload, attendances are used due to relatively increased confidence in these data for peer comparisons (rather than using weighted units). However, even attendances may not be being consistently and comprehensively reported. We are concerned that HCCSJ may be under-reporting attendances. The table below shows the worked hours per attendance for allied health staff in acute care areas (PT, OT, SLP, Nutrition, etc. excluding Audiology, Prosthetics, Orthotics and Pastoral Care)[79].

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[78] As provided by HCCSJ.

Exhibit 5.24
Allied Health Worked Hours per Attendance

		Worked Hours per Acute Attendance	Worked Hours per LTC Attendance (Miller Centre)	Worked Hours per Total Attendance
HCCSJ	1999/2000	1.4908	0.5446	1.3551
	2000/01	1.6527	0.6095	1.4780
	2001/02	2.0689	0.5992	1.7856
Peer Range 2000/01	Minimum			1.1489
	Top Quartile			1.1858
	Median			1.3064
	Bottom Quartile			1.5978
	Mean			1.4880

Productivity appears to have been declining and it is consistently worse than the top quartile. (However, this may be a result of declining attention to workload reporting at HCCSJ.)

Using this measure, productivity performance is 50% worse than the top quartile performance level. If the top quartile performance level were applied to the reported workload, it would suggest a staffing reduction of approximately 136.1 FTE positions, with cost savings of approximately $ 6.05 million dollars.

Because of the apparent unreasonableness of this finding, we also compared hours per weighted case and patient day as an alternative assessment of productivity and to gain an insight into differences in the content of care.

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[79] Respiratory Therapy staffing were allocated to the Respiratory Therapy functional centre.

Exhibit 5.25
Allied Health[80] Worked Hours per Weighted Case / Day

		Worked Hours per Adult Weighted Case	Worked Hours per Paediatric Weighted Case	Worked Hours per Total Weighted Case	Worked Hours per LTC Day
HCCSJ	1999/2000	6.303	13.054	7.090	7.046
	2000/01	6.426	16.909	7.502	7.260
Peer Range 2000/01	Minimum	4.803	[2 peers]	4.803	5.086
	Top Quartile	6.086	10.807	6.563	5.188
	Median	6.729	12.577	7.373	5.276
	Bottom Quartile	7.490	14.347	7.744	5.427
	Mean	6.767	12.577	7.661	5.340

Again, HCCSJ productivity is generally worse than the higher performing Canadian teaching hospitals and is typically near or worse than the bottom quartile with respect to the above indicators. If HCCSJ achieved the top quartile percentiles of peers for hours per weighted case / LTC day, there would be a savings of approximately 45 FTEs. However, this likely reflects differences in the content of care as much as it does differences in allied health productivity. It indicates that the allied health content of care in inpatient programs is more than peer hospitals. However, in this review we were unable to assess the appropriateness of care or of staff distribution among programs, disciplines and skill mix, nor the actual quality or efficiency of allied health services.

We are recommending only partial movement toward the top quartile performance level. We are recommending a reduction of only 15 FTEs. This should provide for improvements in the efficiency of allied health services. Any further reductions likely would change the content of care. However, given the apparent differences in staffing relative to its peers, the hospital should review the cost-effectiveness of its model of allied health services involvement in patient care.

Audiology services were not included in this review. However, the hours per attendance for Audiology are much higher than peers, and the Hospital may want to review this area for potential cost savings and performance improvement.

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[80] These analyses include all reported therapy functional centres (714350000 to 71490000)

Current PCC model does not support the program philosophy

The Professional Practice Model currently utilizes a Professional Practice Coordinator to represent each of the allied health professions. The model is currently staffed with the following resources:

- 1.0 FTEs Director of Allied Health
- 7.0 FTEs Professional Practice Coordinators (2 of these individuals carry a patient workload approximately 50% of their time)
- 2.0 FTEs Clerical Support

The Director of Allied Health reports to the Vice President or a designate. The PCCs are accountable to the Director of Allied Health for all professional practice issues for members of their profession in any of the programs to which they are assigned.

The PCCs are also responsible for standards of care, education, utilization, professional strategic planning, evidence based practice and performance management, including credentialling. In most cases, the PCC positions are FTE positions. The PCCs are generally responsible for management and support activities rather than direct patient care.

There are numerous challenges for allied health professions in the transition to program management and the downsizing of traditional profession-based department structure. This is especially true because the total numbers of FTE in each professional group are relatively small.

One of the goals of program management is to simplify organizational structures and to create accountabilities that link professional service more directly with patient care. The professional practice infrastructure at HCCSJ has recreated the roles and responsibilities of the traditional profession-based departmental structure that existed in the legacy organizations prior to the merger.

It also appears that there are overlaps in accountabilities between the Professional Practice Coordinators and program management. For example, the both the Professional Practice Coordinators and Program managers have responsibility for utilization. This is a role that is usually a responsibility of program management.

In a program management model full time Professional Practice Co-ordinators are not justifiable. In an alternative model a Professional Practice Council would be in place to deal with common issues related to allied health in the program. Each allied health discipline would be represented at the Council with one individual assuming a professional leadership role (0.25 FTE). The Chair of the Council would be a full-time position dealing with the issues of allied health and representing those interests at Senior Management. Clerical support staff would not be required. Implementation of the Professional Council would reduce the current staffing by 2.0 FTE Clerical Support and 4.25 Professional Practice Co-ordinators (assuming the current Director would fill the role of the Chair Council).

It is recommended that:

(84) The Vice President responsible for Allied Health should reduce front-line staff by 15 FTEs, and should perform further investigation of opportunities to improve productivity of allied health staff.

(85) The Vice President responsible for Allied Health should develop and replace the current Professional Practice Coordinator model with a Professional Practice Council model with associated staff savings.

5.3.2 Pharmacies

Overview

The Hospital currently operates pharmacy services at five sites and satellite services at the Miller and Bell Island sites. Workload volumes (weighted patient days) and FTEs are presented in the following table.

Exhibit 5.26
Pharmacy Workload and FTEs by Site by Year

Site		1999/2000	2000/01	2001/02 Forecast	% Change
St. Clare's	Wkld	61,945	70,827	74,499	20.3%
	FTEs	22.56	29.62	30.05	33.2%
Grace	Wkld	51,672	11,364		-
	FTEs	9.05	2.56		-
General	Wkld	95,956	115,426	121,911	27.0%
	FTEs	41.43	46.66	46.38	11.9%
Janeway	Wkld	21,737	20,876	20,576	-5.3%
	FTEs	8.25	8.14	7.85	-4.8%
Waterford	Wkld	63,470	64,686	60,837	-4.1%
	FTEs	6.22	6.21	5.65	-9.1%
Bell/Miller[81]	Wkld	16,354	17,394	17,813	8.9%
	FTEs	N/A	N/A	N/A	
Total HCCSJ	**Wkld**	**346,947**	**338,455**	**333,840**	**-3.8%**
	FTEs	**87.51**	**93.19**	**89.93**	**2.8%**

Services provided include intravenous admixture, total parenteral nutrition (TPN), chemotherapy, inpatient and outpatient dispensing. The Department's clinical pharmacy service was reduced significantly (from 8.5 FTEs to 3) recently.

There are full-service pharmacy operations at the St. Clare's, HSC and Waterford sites. There are satellite operations at the Leonard Miller site. There are also pharmacy services at the Janeway site, which are a mix of full service and satellite service models. Although the HSC and Janeway sites are physically linked, the Janeway site provides unique services to the paediatric inpatient population, especially neonates.

Overall management of departmental operations is the responsibility of the Director. There are separate managers for three areas of functional responsibility: Pharmaceutical Distribution, Parenteral and Sterile Admixtures and Specialty Services. The organizational design does not incorporate site-specific management.

The ongoing operational review (in parallel with this review) identified that the organizational design is complex and has recommended streamlining the organizational structure, clarifying the roles of supervisors and greater reliance on site-based management. There may be opportunities to flatten the organizational structure for the Department. Our on-site reviews and interviews confirm these findings.

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[81] Bell Island support is limited to purchasing and distribution to Bell Island. Bell Island staff manage on-site drug inventories.

The Department provides a range of services that include pharmaceutical purchasing and distribution, dispensing inpatient and outpatient prescriptions, preparation of intravenous admixtures (for use for hospital inpatients and for the home IV program), chemotherapy and total parenteral nutrition. The Department also used five dedicated clinical pharmacists to provide drug use evaluation, adverse drug reaction monitoring, drug protocol management and other related services. Clinical pharmacy services were reduced from 8.5 to 3.0 FTEs in order to achieve cost savings in a recent round of hospital budget cuts.

The Pharmacy Department operates a mix of traditional drug distribution and unit dose systems for oral medications at the different campuses. At the present time, the St. Clare's and HSC sites each have unit dose operations, although they still rely to some degree on traditional drug distribution systems. Space limitations and other practical considerations have prevented the consolidation of unit dose drug distribution at a single site. Intravenous admixture preparation has been consolidated to the St. Clare's and HSC sites.

Hours of operation at the main pharmacy sites are 0730 to 1800 hours during the week and 0900 – 1700 hours on weekends. Technicians are available until 2100 hours. There is night cupboard pharmacy service operation at all sites. Janeway offers pharmacy services from 0830 to 1630 seven days per week.

The Pharmacy at the HSC site provides services to the Janeway site, although the Janeway site assumes responsibility for the preparation of drug doses to neonatal inpatients in particular. The Waterford and Miller sites function as satellites with small staffs. Retail pharmacy services are not provided at any of the campuses.

Pharmacy's reported performance is better than the top quartile

Performance comparisons for Pharmacy Services use a high-level measure of workload to compare hospitals: acute patient days plus 25% of non-acute patient days. Productivity is measured as worked hours per unit of workload (equivalent patient day). On the surface, Pharmacy at HCCSJ appears to have a productivity level that is better than all peers.

Exhibit 5.27

Pharmacy Hours per Equivalent Patient Day

		UPP + M&O Worked Hours per Workload
HCCSJ	1999/2000	0.4159
	2000/01	0.4459
	2001/02	0.4338
Peer Range 2000/01	Minimum	0.5072
	Top Quartile	0.6140
	Median	0.7456
	Bottom Quartile	0.7804
	Mean	0.7884

Performance comparisons among hospitals must consider differences in scope and methods of services, in particular, the types of drug distribution systems (extent of unit dose versus traditional, ward stock, and controlled dose), extent of clinical pharmacy services, and other factors such as IV Admixture services and research/clinical trials support. Given the minimal level of clinical pharmacy services at HCCSJ and the mix of drug distribution systems (less unit dose than other teaching hospitals), we conclude that the department appears to be appropriately staffed, generally. However, there may be opportunities to streamline the organization and perhaps, to increase clinical services with existing staff (when improved information systems are introduced, for example).

Impact of Facilities and Equipment

Pharmacy space appears limited at both the HSC and St. Clare's sites. Space appeared to be adequate and appropriate to support the operations at the Janeway and Miller sites. The operational review did not include a site visit to the pharmacy at the Waterford site, but the interview process identified that space was limited there a well.

The consultants currently conducting the focused pharmacy operational review have identified specific space related issues and these will be detailed in their final report, together with recommendations made accordingly.

Opportunities to Improve Performance

The various sites operate different legacy pharmacy systems and it is understood that Hospital is in the process of harmonizing information systems across the corporation, and pharmacy will integrate through hospital wide systems. This may take place within the next two years. There is currently no electronic order entry system for pharmacy. An improved information system should help to improve the quality of care (for example: more screening of interactions), and potentially, free up some pharmacist time for more clinical interventions.

Pharmacy currently operates two different drug distribution systems. The two systems are unit dose distribution and traditional distribution. Each of the major inpatient sites operates a mix of drug distribution systems. Historically, there was a commitment to move toward the unit dose distribution system across the corporation. However, while this system may save drug costs and improve quality, it requires capital investment and increased labour costs.

Several issues were identified with the current process of drug distribution at HCCSJ. These include inadequacy of fill interval, duplication of effort, potential for errors in drug dosing and potential drug wastage. These problems can be addressed through 24-hour unit dose distribution systems at the HSC and St. Clare's sites. The other sites may continue to operate traditional systems given their lower annual volumes and the nature of their patient populations. The Janeway site may consider adopting the unit dose system, but the costs will have to be weighed against the benefits.

Overall, there are probably advantages in moving to fully automated unit dose systems. This would likely reduce overall drug expenditures and medication errors. While full conversion could result in overall cost savings, the cost savings would not be realized in the short term, given the technology and conversion costs associated with this transition.

Recommendations pertaining to rationalizing drug distribution and the cost implications of doing so are being identified by the consultants performing the in-depth operation review of pharmacy. Based on preliminary indications, these recommendations will result in short term increases in operating expenditure and in capital equipment. Although they will not create short term cost savings, they will create cost savings and improve quality in the longer term.

The elimination of 5.5 FTE clinical pharmacists resulted in cost savings of approximately $250,000. The remaining three pharmacists were decentralized to specific patient care functions such as infectious diseases and the intensive care units. The quality case for pharmacists in this function is strong and the health services literature also identifies lower patient care costs attributable to this service. While a case can be made to reintroduce this service, given current financial constraints it is recommended that Pharmacy should prepare a clear business case in order to determine the cost effectiveness of the service.

From 1999-2000 to 2000-2001, acute patient days were down 2.6%. During the same period, the total number of inpatient prescriptions prepared and inpatient refills prepared increased by 15.8% and 14.1% respectively. During the same period, narcotics issues and the preparation of total parenteral nutrition units (TPN) increased by 17.5% and 26.1% respectively. During the six-month period from April to September between 2000 and 2001, the costs of drugs used increased by 21.8% from $7.32 million to $8.92 million. Average inventory increased from $1.2 million to $1.46 million during the same period. Drug inventory turns over about 12 times per year.

Pharmacy management seemed unclear as to the reason for the increase in drug costs during a period in which patient service measured in days of care decreased slightly. While there could be a number of possible explanations for this observation, pharmacy management needs to work with management of the clinical programs to establish a clear explanation for this observation and to determine how to better manage overall drug costs and drug utilization if this observation is valid.

Overall, it appears that net drug costs per adult weighted case are competitive with similar costs in other teaching hospitals. Costs are HCCSJ are $121.76. The range is $103.66 – 306.80. Performance at HCCSJ is therefore commendable. However, there may still be an opportunity to further reduce these costs if they are escalating out of proportion to absolute patient service workload indicators.

Organ transplants are not performed at HCCSJ. Transplants for HCCSJ patients are done other centers, but primarily at Queen Elizabeth II Health Sciences Centre in Halifax. Patients are started on anti-rejection drug regimens at these centers. HCCSJ assumes costs of providing these treatments after the initial surgery.

Departmental Staffing Requirements

Current staffing for pharmacy as of November 1, 2001 is 83.2 budgeted FTEs. There are 30 pharmacists and 41 pharmacy technicians. The management team consists of 1 director, 3 managers and 5 supervisors. There are 3 FTE support staff. As noted above, current productivity appears to be good in comparison with Canadian teaching hospitals, when considering differences in scope of services.

The ratio of management/supervisory to professional and technical staff for pharmacy is approximately 1:9. The ratio of management/supervisory to professional and technical staff for pharmacy is approximately 1:9. It appears that the ratio of managers to professional and technical staff is somewhat high and a more suitable ratio would be 1:10. This would result in a reduction in 1.0 FTE Pharmacy Manager Position.

In Pharmacy, as in other health care environments there are unutilized opportunities to shift work between professional and technical staff. The interviewees pointed out that there are such opportunities to shift work from pharmacists to technical staff thereby increasing the ratio of technical staff to pharmacists and/or creating pharmacist capacity for more clinical services. This would result in cost savings because it could mean greater reliance on pharmacy technicians, who are a less costly human resource. Provincial legislation presently prohibits delegation of professional acts by pharmacists. Therefore, before this opportunity can be pursued, it will be necessary to enact changes in provincial legislation that governs the pharmacists.

Staffing recommendations from the consultants currently conducting the in-depth operational review of pharmacy will be reviewed by HCCSJ senior management.

It is recommended that:

(86) The Director of Pharmacy should reduce the department management structure by 1.0 FTE Manager.

(87) The Director of Pharmacy should undertake a comprehensive cost-benefits and impact analysis of the role of clinical pharmacists.

(88) The Director of Pharmacy should identify specific tasks currently performed by pharmacists that can be more appropriately performed by pharmacy technicians.

5.4 Diagnostic Services

5.4.1 Laboratories

Overview The HCCSJ Laboratory Services encompasses chemistry, hematology, immunology/tissue typing, blood bank, microbiology, pathology and molecular diagnostic services. The on-site distribution of Laboratories services is presented in the following exhibit.

Exhibit 5.28
Distribution of On-Site Laboratory Services

St. Clare's	General	Janeway	Waterford	Miller Centre
• Clinical Chemistry • Hematology • Blood Bank • Anatomical Pathology • Microbiology • Cytology	• Clinical Chemistry • Hematology • Blood Bank • Anatomical Pathology • Microbiology • Electron Microscopy, • Immunohisto-chemistry, Allergy, Immunology, Toxicology, • Genetics - Biochemical, • Cyto, Molecular	• General site does lab work	• Specimen Collection Centre	• Cytology from Community Physicians and General Hospital • Public Health Laboratory including all • Virology, TB, Specialized Testing

The clinical laboratories are well managed and have realized operational savings through consolidation of four hospital sites to two. There has been a significant consolidation of laboratory management and supervisory staff within the reorganization process over the last few years. There are further plans for improved efficiencies through equipment purchases, renovations, and a redesign of processes in 2002.

A summary of the laboratory workload and FTEs by lab section over that past three years is presented in the following exhibit[82].

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[82] The HCCSJ has identified in excess of 3 million workload units that mostly were reported as non-patient care workload (e.g. Quality control, calibration, etc.) These are normally excluded from the comparative analyses being conducted in

Exhibit 5.29
Laboratory Workload and FTEs

		1999/2000	2000/01	2001/02 Forecast	% Change
Main Laboratory with Chem/Haem/BB	Pt. Care Workload Units	9,800,523	9,804,408	10,065,415	2.70%
	FTEs	166.31	161.68	156.24	-6.10%
Anatomical Pathology	Pt. Care Workload Units	2,946,169	3,003,796	3,138,583	6.53%
	FTEs	45.23	45.68	43.72	-3.33%
Microbiology	Pt. Care Workload Units	1,334,742	1,353,326	1,413,528	5.90%
	FTEs	24.73	23.75	23.31	-5.74%
Immunology	Pt. Care Workload Units	1,145,088	982,785	881,371	-23.03%
	FTEs	7.86	7.48	7.61	-3.18%
Molecular Diagnostics	Pt. Care Workload Units	879,753	1,047,856	1,046,364	18.94%
	FTEs	8.31	8.91	9.09	9.38%
Total HCCSJ	**Pt. Care Workload Units**	16,106,275	16,192,171	16,545,261	2.73%
	FTEs	252.44	247.50	239.97	-4.94%

The laboratories are in the final stages of acquiring excellent new chemistry and hematology automated equipment through operational savings. The General Hospital is planning to use a large open area for such equipment facilitating the implementation of a "core" facility.

Core Lab Concept

The core lab concept refers to a multidisciplinary laboratory, incorporating automated chemistry and hematology equipment and multi-skilled technologists. The automated equipment forms the core of all large medical laboratories and operates 24 hours/day, all days of the week. The core lab is organized to provide the most rapid, efficient service with the minimum number of staff (rather than the traditional model of organizing labs around professional disciplines like chemistry, hematology, etc.). Benefits to be realized include:

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this review. These 'other' units typically are about 15% of a teaching hospital's workload. The 3.4 million units reported initially as other by HCCSJ are 16% of the hospital's lab workload. Subsequently, the hospital reallocated most of these other units, leaving only apparently 6% of its workload devoted to these non-patient care activities. The scope of work and budget for this project did not provide for review of workload measurement or reporting. As a result we present here our initial analysis of workload and productivity. As suggested again later in this report, the hospital and the department should review the workload and productivity of HCCSJ to determine a reasonable target for productivity improvement.

Significant savings of space

- A number of technologists, technicians and laboratory assistants may be progressively cross trained for work in both chemistry and hematology which allows more efficient and flexible use of their time
- Other highly skilled technologists will best maintain their necessary depth of expertise by focusing on hematology or chemistry.
- Increased use of lower paid laboratory personnel
- Greater test mix with more rapid throughput

Placement of the chemistry and hematology automated equipment in close proximity to where specimens are received in the laboratory allows industrial efficiencies in this core part of the laboratory.

Operations

Some operational issues for the Laboratories include the following:

- Technologists must manually verify all results from the automated equipment prior to releasing it to the computer for reporting. Computer system verification and release of stable or predictable results (approximately 25% of tests) would allow for more focused and efficient use of skilled technologist time.
- The Director of Laboratory Services should pursue implementation of auto-verification processes after the installation of new chemistry and hematology instrumentation.
- The Director of Laboratory Services should implement focused cross-training in anatomic pathology between autopsy technicians and lab assistants/technicians, histotechnologists and Pathology Assistants, and between cyto- and histopathologists (if possible).
- At the General site after-hours delivery of specimens to the main chemistry / hematology laboratory is done by porter. This is inefficient and slow. The Vice President Administrative Services should undertake the relocation of the General's Hospital's tube system from its current location in the Laboratory to the front end of automation area in the renovated core facility The Director of Laboratory Services should utilize the General site's relocated tube system as a vehicle for after-hours delivery of hospital specimens.

- The Waterford Collection Center provides a convenient location for specimen collection from patients who would otherwise be required to drive to one of the two hospitals. Standalone specimen collection centers usually sacrifice efficiency for patient convenience.

- Patient specimens from the Waterford Centre are currently routed to St. Clare's where a subset of these tests is referred to the General. These specimens should be routed directly to the General where all tests can be performed.

- Improvements in laboratory utilization could be realized through the following:
  - Consideration should be given to reducing bleeding times, a screening test for bleeding disorders. Bleeding times are very labour intensive and are usually medically unnecessary
  - The use of cheaper "screening" tests will decrease the frequency of expensive genotyping. For example, a laboratory algorithm for Lynch syndrome (a familial form of colon cancer), or HNPCC testing, including immunohistochemistry and microsatellite instability testing prior to genotyping.

- Anatomic pathology workload is hands-on labour intensive and varies considerably on different days of the week due to the randomness of autopsies and the scheduling of certain operating room cases and specialty clinics (such as gastroenterology which may impose heavy but often unpredictable workloads on particular days of the week). Focused cross-training provides significant improvements in efficiency and flexibility of staffing, such:
  - Autopsy Technicians with Histopathology Laboratory Assistants
  - 2-3 Laboratory Histotechnologists and Pathology Assistants (PA)
  - 1-2 Cytotechnologists with Histotechnologists (if possible)

- The institution of a stem cell program for the current population of immunosuppressed patients caused by AIDS, hematopoietic disease, and the chemotherapy of cancer and the effectiveness of new antiviral drugs requires the availability of rapid testing for viral diseases such as CMV, herpes simplex, and enterovirus seven days a week/16 hours per day. In most acute care high intensity tertiary hospitals such testing resides in the hospital microbiology laboratory. In St. John's it is the responsibility of the Public Health Laboratories (PHL). The PHL is off-site complicating delivery of specimens and is only routinely available on weekdays. Western provinces have consolidated all the functions of PHLs into selected Academic Health Science Centre Hospitals with associated industrial process savings and better use of the laboratory medical and scientific expertise. This has been done while respecting the PHL broader public mandate for broad based viral hepatitis and AIDS serology, environmental testing, and in some instances their investment in tertiary level mycobacteriology facilities.

- The Ministry of Health should integrate all of the Public Hospital Laboratory's acute care laboratory services and resources located at the Miller Centre with the HCCSJ Laboratory Services in 2002-2003. All cytology acute care services should be transferred to St. Clare's.
- The Ministry of Health should integrate all Public Hospital Laboratory acute care microbiology services and resources located at the Miller Centre, including virology and clostridium difficile assays, with the consolidated HCCSJ microbiology site at the General Site.

- There is an increasing need for laboratory technical equipment and expertise to support competitively funded research at Memorial University and the array of industry funded clinical trials within hospitals. The incremental costs of providing this service is currently not tracked nor charged for. It is not an uncommon practice for hospital laboratories accrue a revenue stream (or at a minimum cover their costs) in supporting these research projects and clinical trials.

Impact of Facilities and Equipment

There has been significant consolidation of laboratory services over the past few years. The implementation of new equipment and the development of the General Site's core lab in the next fiscal year will lead to more efficient use of staff, savings in space and lower operating costs. Additional opportunities include the following:

- St. Clare's currently has segregated chemistry and hematology areas and a core facility would require moderate renovations and lead to further operational savings.
- Microbiology services were recently consolidated from the Janeway and Grace Hospitals to the General and St. Clare's sites respectively. There was no loss of clinical effectiveness

through use of these "off-site" laboratories and the consolidation provided significant operational savings. Further consolidation to one site will yield equipment and space opportunity savings, allow a greater depth of expertise and breadth of coverage by technical staff and provide significant staffing efficiencies. Available space at the General site includes the space vacated by the pathology division adjacent to the current General site's microbiology laboratory.

- Cytology is practiced at both the Miller Centre and St. Clare's, the former doing gynecological pap smears and referred work from the General and the latter performing all in-hospital St. Clare's cases with their large FNA volume. Pathologists must travel off-site to the Miller Centre where there is no direct access to any of the clinically related biopsies. Instrumentation for cytology is duplicated. Consolidation of cytology acute care services would provide space and equipment savings, and enhanced pathologists' expertise.

Productivity Comparisons[83]

Productivity is measured and compared as the total worked hours per patient care workload unit[84].

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[83] Note: The HCCSJ has identified in excess of 3 million patient care workload units that are collected manually and that may not have been categorized correctly in the data initially provided to support this review. As a result these workload units have not been included in the productivity analyses reported here. Project timing and budget constraints preclude repeating the analysis and assessment of Laboratory performance, However, it should be noted that if these additional workload units were incorporated into the analysis, HCCSJ Laboratory's performance would appear to be significantly more efficient and the potential savings from productivity improvement would be reduced. We do recognize that current HCCSJ laboratory workload measurement data collection and reporting processes may be inadequate and may result in inaccuracies in our analysis of productivity.

[84] Quality Control, calibration, environmental units and other non-patient care units are excluded due to potential reporting differences between organizations.

Exhibit 5.30
Laboratory Performance Comparisons (Worked Hours per Patient Care Workload Unit)

		Main Lab	Anatomical Pathology	Microbiology	Immunology	Molecular Diagnostics
HCCSJ	1999/2000	0.0263	0.0246	0.0290	0.0109	0.0151
	2000/01	0.0255	0.0243	0.0282	0.0123	0.0140
	2001/02	0.0241	0.0217	0.0261	0.0137	0.0140
Peer Range 2000/01	Minimum	0.0212	0.0160	0.0161	0.0077	0.0092
	Top Quartile	0.0225	0.0181	0.0181	0.0144	0.0173
	Median	0.0279	0.0196	0.0184	0.0167	0.0188
	Bottom Quartile	0.0296	0.0206	0.0198	0.0194	0.0201
	Mean	0.0267	0.0195	0.0190	0.0162	0.0173

The Immunology and Molecular Diagnostics sections of the laboratory are performing within the top quartile performance of the peer hospitals.

The Main Laboratory's[85] productivity is between the top quartile level and the peer median performance level. The inefficiencies of the Waterford collection site (6.2 FTEs) are also contributing to higher labour costs.

To achieve the top quartile the Main Lab would require a staffing reduction of 10.64 FTEs. Kingston General Hospital and Sunnybrook and Women's College Health Science Centre are performing better the than the top quartile performance level, however both of these organizations primarily support the bulk of the acute care services on a single site with small labs on other patient care sites. A staffing reduction of 15.87 FTEs would be required in order to achieve the productivity level of these "best" performers, which is likely not achievable at HCCSJ.

The development of the core labs at the General and St. Clare's sites will progressively lead to significant operational savings after the installation and training of staff is complete. This usually requires a minimum of 6 months after installation, however savings will be slower in St. John's because many of the older technologists have a license limiting them to one subspecialty and the benefits of cross training and multitasking will depend on the availability of younger staff licensed in both chemistry and hematology.

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[85] Specimen Procurement, Chemistry, Hematology, Blood Bank

Departmental Staffing Requirements

We have set an initial productivity target for the Main Lab of 0.0238 worked hours per workload unit that will result in a reduction of 2.0 FTEs. A productivity target of 0.0225 worked hours per patient care workload unit (equivalent to the top quartile performance level) should be achievable upon the implementation of the core lab with new equipment, revised workflow processes and more multi-skilled staff. This will result in an additional staffing reduction of 8.6 FTEs. This productivity target is between the higher of peer hospitals within the top quartile and the best productivity achieved from among the other multi-site hospitals[86].

These savings can be realized through a combination of reduced hours of coverage or closure at the Waterford and improved efficiencies at the Main Labs.

Microbiology's productivity is below the bottom quartile performance level of the peer groups. The consolidation of all Microbiology services on a single site would yield a very efficient lab and the top quartile performance level is achievable. This would result in a staffing reduction of 7.19 FTEs. Consolidation on one site could likely not occur until late in next fiscal year, however there could be an immediate reduction of 2.0 FTEs. An initial productivity target of 0.0239 worked hours per patient care workload unit has been targeted improving to 0.0181 upon consolidation on one site.

Anatomical Pathology's productivity is below the bottom quartile performance level of the peer groups. Based on our on-site review and review of work type data we believe there are opportunities to reduce 2.0 Cytology FTEs at the St. Clare's site and 1.0 Histopathology FTE at the General site. In addition we suggest that existing resources be used to further invest in Pathologist Assistants to allow much more effective use of pathologist's time in the gross description of small and large surgical specimens and the preparation of tissue blocks for subsequent microscopic examination. This may be critical in coping with the decreasing number of pathologists throughout Canada.

In the next fiscal year the implementation of new equipment, the completion of current renovations, and the potential redeployment of services such as cytology would benefit from a single manager for those parts of the laboratory that either share common staff or common equipment. Such areas include pathology and cytology, and automated chemistry and hematology core functions.

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[86] The multi-site peer hospital operating at the best reported level of productivity in 2000/01 was not operating in a core laboratory concept.

All sophisticated laboratories such as St. John's require some non-bench technical assistance in quality and utilization management and new test development and verification. Quality management time is being increasingly mandated, as in blood banking. It is critical to protect resources in these areas.

It is recommended that:

(89) The Director of Laboratory Services should plan for the development and implementation of a core hematology/chemistry laboratory at St. Clare's Hospital.

(90) The Vice President Medical should provide for the consolidation of all HCCSJ microbiology services at the General site.

(91) The Vice President Medical should provide for the consolidation all cytology to the St. Clare's site.

(92) The Vice President Medical should implement a process to review, budget and charge appropriately all laboratory services provided in support of research projects

(93) The Director of Laboratory Services should consolidate management positions for pathology/cytology and automated chemistry/hematology core functions.

(94) The Director of Laboratory Services should establish an initial productivity target of 0.0238 worked hours per patient care workload unit in the Main Labs and upon completed implementation of the core labs establish a productivity target of 0.0225 worked hours per patient care workload unit.

(95) The Director of Laboratory Services should establish an initial productivity target of 0.0239 worked hours per patient care workload unit in the Microbiology Laboratories and upon consolidation on a single site establish a productivity target of 0.0181 worked hours per patient care workload unit.

(96) The Director of Laboratory Services should reduce staffing in Pathology by 2.0 FTEs in Cytology and 1.0 FTE in Histopathology and make investments to train three pathology assistants.

5.4.2 Imaging Services

Overview The HCCSJ Diagnostic Imaging service encompasses: General Radiology, Mammography, Ultrasound, CAT Scanning, MRI Scanning, Angiography and Nuclear Medicine.

Diagnostic Imaging is a designated program within the HCCSJ program management structure. Within this structure DI has management responsibility for central patient portering[87] and echocardiography services at the General and St. Clare's sites.

The following table provides a summary of the reported costs, workload and FTEs by modality.

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[87] Central Patient Portering services are available for all HCCSJ programs and are not Diagnostic Imaging specific.

Exhibit 5.31
Diagnostic Imaging Operating Costs, Workload and FTEs

		1999/2000	2000/01	2001/02 Forecast	% Change
Diagnostic Imaging (Administration, X-Ray, Mammography)	Net Operating Costs	$9,610,154	$9,903,983	$9,251,331	-3.73%
	Workload Units	6,785,179	6,494,420	6,046,605	-10.89%
	FTEs	170.68	167.70	154.10	-11.07%
CT / Angiography	Net Operating Costs	$1,534,620	$1,698,618	$1,778,194	15.87%
	Workload Units	1,102,829	1,389,668	1,573,394	42.67%
	FTEs	7.64	10.11	11.92	54.80%
Ultrasound	Net Operating Costs	$843,371	$809,835	$1,016,340	20.51%
	Workload Units	1,579,361	1,787,080	1,736,080	9.92%
	FTEs	13.25	11.88	13.40	1.12%
Nuclear Medicine	Net Operating Costs	$1,312,244	$1,254,705	$1,177,903	-10.24%
	Workload Units	1,411,973	1,312,354	1,377,535	-2.44%
	FTEs	17.48	16.41	15.50	-11.89%
MRI	Net Operating Costs	$296,349	$246,189	$312,313	5.39%
	Workload Units	323,059	328,525	329,470	1.98%
	FTEs	2.27	2.26	3.65	61.84%
Total Diagnostic Imaging	Net Operating Costs	$13,596,738	$13,913,330	$13,536,081	-0.45%
	Workload Units[88]	11,202,401	11,312,047	11,063,084	-1.24%
	FTEs	211.32	208.36	198.57	-6.03%

The above costs exclude central portering and echocardiography resource as these are reported in other functional centres in accordance with MIS Guidelines reporting requirements.

The distribution of available DI service on-site is presented in the following exhibit.

Exhibit 5.32
Distribution DI Services by Site

St. Clare's	General	Janeway	Waterford	Miller Centre
X-Ray Radiography / Fluoroscopy Mammography Angiography Unit CT Scanner Ultrasound	X-Ray Fluoroscopy Angiography CT Scanner Ultrasound Rooms Nuclear Medicine	X-Ray Fluoroscopy CT Scanner Ultrasound	X-Ray Room Centralized Transcription Services	X-Ray Rooms (2 half days per week)

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[88] Workload units exclude patient transport units since the worked hours for transporting patients is reported in the Central Portering functional centre.

Nuclear Medicine	MRI			

The Division of Diagnostic Imaging Services is overseen by a Division Director and Clinical Chief. Divisions organized within Diagnostic Imaging Program are as follows:

- Adult Care - St. Clare's
  - 2 Division Managers
  - 1 Division Chief
- Adult Care - General (includes Waterford & Miller Services)
  - 2 Division Managers
  - 1 Division Chief
- Paediatric & Maternal Corporate
  - 2 Division Managers
  - 1 Division Chief
- Nuclear Medicine
  - 1 Division Manager
  - 1 Division Chief

With the exception of Nuclear Medicine, which is managed as a corporate resource and provides services to both the St. Clare's and General sites, the other divisions within the program are site specific and function for the most part as independent operations (MRI is a corporate/regional resource and the Janeway's CT Scanner has only recently started to be used on a limited basis for adult patients). These divisions are in direct alignment with the three independent Radiologist groups in place that remain in place prior the creation of the HCCSJ (General, St. Clare's and Janeway Radiologists Groups). Concerns with this alignment include the following:

Three independent Radiologists Groups may be impeding the effective utilization of DI resources

- Continuing to be supported by three independent Radiologists Groups impedes the HCCSJ's DI service from maximizing the use of existing resources (staff and equipment), such as balancing workload between sites. The Radiologists Group derive their income from a fee-for-service model which may be a contributing factor in situation.
- There is a significant level of animosity among the sites. There are feelings that decisions are often made in the best interests of the Radiologist Groups and that certain sites receive

preferential treatment, rather than in the best interests of the HCCSJ or the patient it serves.

The management structure of the of the Diagnostic Imaging department is comprised of one Director and seven Division (Site) Managers. The management staffing compliment is a reduction of 1.0 FTE management positions from the closure of the Grace Hospital. All incumbents were formerly managers and/or assistant managers with the predecessor organizations (St. Clare's, General and Janeway), and the HCCSJ merger resulted in a levelling of all positions up to the manger level.

The site Managers are accountable for the day to day operations of their functional areas at their respective sites, including staff supervision, planning, organizing, staffing, training, data collection, analysis and trending, performance appraisals and payroll functions.

Dual site managers have individual responsibility for specific modalities (CT, MRI, Ultrasound, etc.) and share responsibility for X-Ray, film library, clerical support services, central patient portering and DI nursing services. These shared responsibilities are rotated on a daily basis.

The organization and responsibilities of the Management team is not an effective use of resources

Specific concerns with the management structure are as follows:

- Over 80% of the diagnostic imaging staff, plus the central portering staff have direct reporting lines to two mangers. This is uncommon and could likely lead to miscommunication, conflicting direction, etc.
- Site managers are performing tasks typically performed by less costly resources. These tasks include greeting and directing patient traffic, payroll sheet completion, relief call in, etc.
- The rotating of daily responsibilities (such as greeting and directing patients) does provide managers with sufficient extended periods of time to focus on true management activities of planning, organizing, assessing and monitoring.

There is a need to implement a more effective management structure, supported with an appropriate mix/skill set of staff resources. A revised management resource structure should include the following:

- Fewer site managers, so that staff report to single manager
- Increased use of Charge Techs to direct day to day operations

- Coordinator of Support Services, including film library service, scheduling, booking and reception services and workload data collection and reporting
- Additional clerical support for payroll processing, staff scheduling, etc.
- Management responsibility for Central Patient Portering should be transferred to Materials Management. This provides flexibility and improved utilization of all staff transport resources (materials and patient).
- Management of DI Transcription Services, which are centralized at the Waterford Hospital, should be transferred to Health Records. Health Records Transcription services is also centralized at the Waterford Hospital. The integrity of the DI transcription pool should be kept intact, however this reporting realignment will allow for the more focused and consistent management of these resources on a daily basis.

The degree to which a more effective management structure can be established will be largely dependant upon the establishment of a single Radiologists Group and further consolidation and integration of services between sites.

General X-Ray Technologists are on-site 24 hours per day, seven days per week at the St. Clare's and General Sites. The Janeway's General Radiology Technologists are available on-site from 0800 – 2400 hours, seven days per week. All other modalities provide on-site coverage from Monday to Friday between the hours of 0700 – 1800 (varies by service/site). Modality specific after-hours on-call systems are in place for each site.

Operational issues include the following:

- Booking and scheduling are site specific versus a centralized system that could make better use of existing resources, balance workload between sites, etc.
- Evening and night coverage lack CT expertise requiring call-ins which leads to higher overtime costs, and delays in service. Technologists on-site during evening and night time need to be appropriately trained to provide CT services. (1) The Director of Diagnostic Imaging should ensure that on-site evening coverage include staff trained to provide CT services.

- Weekend and Holiday evening on-site coverage is less than weekdays, however these periods are busy periods in the Emergency Department.
- The majority of services are provided and scheduled on weekdays. The bulk of all Diagnostic Imaging workload is outpatient related. As such consideration should be given to shifting some schedules and bookings to begin later in the day/evening, thereby making available more resources through the evening to meet emergency requests. The Director of Diagnostic Imaging should shift daytime resources, as appropriate, to begin later in the day.
- There is a lack of 4-hour shifts that could be used to meet peaks in demand during specific days of the week. Schedules are comprised of 8 to 12 hours shifts which could lead to more hours than necessary and/or fewer hours than necessary on certain days.
- The Director of Diagnostic Imaging should consider using part-time resources to more effectively balance staff with daily workload demands.
- The Director of Diagnostic Imaging should enhance/provide evening/night-time coverage of the Janeway ER using the General site's on-site evening/night-time resources rather than through the use of call-ins.
- There a need to strengthen/establish urgent and emergent criteria for specialized modalities, such as MRI. For example the review of MRI requisitions by Radiologists for appropriateness has been discontinued since 90% of all requisitions are identified as urgent requests. Discontinuation of this review causes truly "urgent" cases to wait longer than appropriate.
- The Clinical Chief of Diagnostic Imaging should work with the MAC to establish criteria for the appropriate use of sophisticated imaging procedures, distribute these criteria to all staff (internal and community) who refer patients and establish a referral review mechanism to ensure that only those patients who meet the appropriate criteria are considered for complex or expensive investigations.
- Significant Overtime was reported to meet the growing number of urgent and emergent Angiography cases.

Performance Comparisons

Diagnostic Imaging productivity is measured as the total worked hours per workload unit. The Diagnostic Imaging's productivity by modality is presented in the following exhibit[89].

Exhibit 5.33
DI Performance Comparisons (Worked Hours / Workload Unit)

		Radiology[90]	CT + Angio	Ultrasound	MRI	Nuclear Medicine
HCCSJ	1999/2000	0.0392	0.0117	0.0132	0.0114	0.0197
	2000/01	0.0401	0.0123	0.0113	0.0135	0.0204
	2001/02	0.0391	0.0127	0.0130	0.0165	0.0186
Peer Range 2000/01	Minimum	0.0216	0.0086	0.0114	0.0169	0.0172
	Top Quartile	0.0325	0.0153	0.0148	0.0202	0.0245
	Median	0.0332	0.0169	0.0165	0.0271	0.0272
	Bottom Quartile	0.0360	0.0192	0.0202	0.0334	0.0316
	Mean	0.0332	0.0169	0.0181	0.0268	0.0281

With the exception of the General Radiology area all modalities are currently and have historically been operating within the top quartile performance range of the peer hospitals. There is no other peer is operating these four modalities within the top quartile. One of the peers (London Health Sciences Centre) is operating three of these four modalities within the top quartile.

General Radiology is consistently worst than the bottom quartile

HCCSJ's General Radiology services are consistently operating worse than the bottom quartile performance level. To achieve the top quartile performance level a staffing reduction of 25.8 FTEs (17%) would be required.

The following exhibit presents site specific performance comparisons of the General Radiology areas.

Exhibit 5.34
General Radiology Performance Comparisons by Site

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[89] Note: During the course of this review the HCCSJ provided several sets of staffing and workload data. The hospital is concerned that the worked hours data are not appropriately aligned with the functional centres where the work was performed and that, as a result, productivity measures do not accurately reflect performance in each of the functional centres. Also department management expressed concerns regarding the reliability of workload data as a result of systems conversions and possibly incomplete programming to set up the reporting of workload. Project timing and budget constraints preclude investigating this issue any further or repeating the analysis and assessment of Diagnostic Imaging performance. However we do recognize that current workload data collection and reporting processes may lead to inaccuracies in the productivity analyses reported here. The HCCSJ and the Department should resolve this issue of workload and worked hours allocation before determining the targeted savings for DI as part of the hospital's recovery plan.

[90] Includes x-ray, mammography, fluoroscopy, chest unit, portables

		Total	St. Clare's	General	Janeway	Waterford
HCCSJ	1999/2000	0.0392	0.0404	0.0337	0.0419	0.0910
	2000/01	0.0401	0.0441	0.0327	0.0456	0.0300
	2001/02	0.0391	0.0410	0.0353	0.0452	0.0300
Peer Range 2000/01	Minimum	0.0216	0.0216	0.0216	0.0216	0.0216
	Top Quartile	0.0325	0.0325	0.0325	0.0325	0.0325
	Median	0.0332	0.0332	0.0332	0.0332	0.0332
	Bottom Quartile	0.0360	0.0360	0.0360	0.0360	0.0360
	Mean	0.0332	0.0332	0.0332	0.0332	0.0332

Except for the Waterford, HCCSJ sites are near or worse than the bottom quartile performance level. The Waterford is operating within the top quartile. If all sites were as efficient as the Waterford, 35.5 fewer FTEs would be required.

To further validate these productivity comparisons, comparisons of acute inpatient diagnostic imaging (all modalities combined) worked hours per weighted case were also conducted. Theses are presented in the following exhibit.

Exhibit 5.35
Acute Inpatient DI Worked Hours per Weighted Case

		Total	Adults	Paediatrics
HCCSJ	1999/2000	1.971	1.977	1.453
	2000/01	1.872	1.818	1.893
Peer Range 2000/01	Minimum	0.923	0.923	Two Peers
	Top Quartile	1.147	1.122	1.381
	Median	1.570	1.553	1.474
	Bottom Quartile	1.707	1.796	1.566
	Mean	1.464	1.462	1.474

These comparisons also indicate a performance worse than the bottom quartile. HCCSJ is using 63% more hours per weighted case than the top quartile performance.

These productivity comparisons indicate that there are opportunities to improve the overall performance of Diagnostic Imaging Services.

Impact of Facilities and Equipment

The impact of facilities and equipment are significant factors on the efficiency of Diagnostic Imaging operations. These include the following:

- St. Clare's physical distribution of radiology rooms, file locations and radiologists reporting locations results in poor workflow patterns, excessive handing of files, difficulty in staff scheduling as follows:

  - Radiology rooms are located in the main department area floor, 2nd and 3rd floors which provide challenges in maximizing the efficient use of staff and creates excess travel.
  - Space limitations have lead to films being stored in multiple internal storage locations plus an off-site storage location. Film records are moved from one storage location to the next as they age. The main film library maintains 3 months of film records.
  - Radiologists reporting locations are not near the film libraries resulting in significant back and forth delivery of film records. While a centralized reporting room was developed the characteristics of this area (size, privacy, quietness, etc) have resulted in the room to be non-functional.

- A Picture Archival System (PACs) is currently being implemented at the Janeway site and is expected to be in operation by May 2002. The original plan was to have the system in operation at the time the new Janeway site opened, however delays in obtaining funding commitments and contract signings have delayed the implementation. There are currently no formal plans, nor approvals to expand throughout the HCCSJ. While there will be benefits to be realized at the Janeway site, there are even greater benefits be realized by digitizing the adult radiology workload. Studies have identified that there are significant benefits, both quantitative and qualitative, potentially to be realized from the implementation of PACS technology:
  - Improved technical, clerical & radiologist productivity (15 - 30% (or more) improvement potential)
  - Significantly lower film costs (60 - 70% reduction potential)
  - Reduced other supply costs
  - Productivity of staff external to the DI department is improved (requesting/retrieval of films, etc.)
  - Improved patient care through reduced repeats, more accessible information, etc.

The HCCSJ needs to further maximize the use the PACS technologies being implemented at the Janeway. This can be achieved by maximizing the use of the Janeway technologies by shifting work and resources from the other sites. The majority of DI work is outpatient related which can be shifted to other times of the day.

- The Janeway DI continues to maintain film records at the old Janeway site, and records are retrieved on a daily basis (via taxi). Traditional film record storage issues will continue to grow until the PACS system is in operation. The Director of Diagnostic Imaging should use the Materials Management transportation system for the retrieval of film records versus the use of taxis.

- The MRI unit was installed in 1995 and is a 0.5 Tesla strength unit. This strength is significantly out dated from current technology which is now at 1.5 Tesla. The higher strength units allow for increased patient volume through reduced imaging time required. This reduced imaging time also minimizes patient anxiety (particularly with paediatric patients and patients who are claustrophobic). Application of MRI likely will continue to expand because it is a non-invasive procedure that provides enhanced diagnostic information as compared to other imaging modalities. Effectively used, MRI can lead to improvements in overall patient care and utilization:

  - Avoiding some surgery by helping to establish a pre-operative diagnosis
  - Provision of an anatomic 'roadmap' will minimize surgical time and unnecessary risk.
  - Minimizing the use of alternative modalities and tests, such As myelography, CT, ultrasound, evoked potentials and/or Cerebral Spinal Fluid analysis

  The Director of Diagnostic Imaging and Clinical Chief of Diagnostic Imaging should include an updated MRI unit in the annual capital equipment plan to be purchased when funds become available.

- The Janeway's CT Scanner is a high end scanner, and is underutilized. There are about 20 patients booked per day and approximately 60% are adult. The scanner has only recently started to be used on a limited basis for adult patients. While the operating hours are from 0800 to 1630, patients are only booked until 2 p.m. The department is moving the number of patients to 30 patients per day. The Director of Diagnostic Imaging and Clinical Chief of Diagnostic Imaging should maximize the use of all existing technology at the Janeway.

- Two Janeway Radiologists have been piloting electronic signature and on-line report editing which should significantly improve report turnaround. This pilot should be fast tracked in implemented across all sites as appropriate

Consolidation of diagnostic imaging at the Janeway/HSC complex would enhance overall service efficiency and effectiveness

- The consolidation of all diagnostic imaging services at the Janeway/Health Sciences Centre complex into one diagnostic imaging area would lead to the optimal use of technicians, support staff and Radiologists. Benefits to be realized include:
  - Enhanced evening night coverage to adequately respond to the need to support the Emergency Department.
  - Lower overtime costs through reduced call-ins.
  - Maximizes opportunities to improve overall equipment utilization
  - More skilled staff would available to provide services to adults and children
  - Reduced MRI waiting times for paediatric patients. Currently the Janeway has access to the MRI for two days per month. This results in paediatric patients to have a longer waiting time period (for non-urgent/emergent cases) than adults do. A single department with appropriately trained staff, would eliminate the designated days thereby reducing the overall waiting time.
  - Lower capital investment would be required to implement PACS technology by maximizing the use of the current technology at the Janeway, also thereby realizing operational savings sooner.
  - Saves space.

Departmental Staffing Requirements

Based on the on-site interviews, observations and results of the productivity comparisons we are proposing a productivity target for the General Radiology areas equivalent to the bottom quartile performance level for the next fiscal year and to achieve the median performance level for the 2003/04 fiscal year. This would result in reductions of 12.06 FTEs and 11.04 FTEs respectively in fiscal years 2002/03 and 2003/04.

Other Diagnostic Imaging areas should maintain current productivity levels.

It is recommended that:

(97) The Vice President Medical Services and the Chairperson of the MAC should initiate a process create a Single Radiologists group for HCCSJ.

(98) The Director of Diagnostic Imaging should restructure the current management structure.

(99) The CEO should transfer the management responsibilities of Central Portering and DI transcription Services to Materials Management and Health Records respectively.

(100) The Director of Diagnostic Imaging should create a single centralized patient and booking and scheduling service.

(101) The Clinical Chief of Diagnostic Imaging should work with the MAC to establish criteria for the appropriate use of sophisticated imaging procedures.

(102) The Director of Diagnostic Imaging should undertake the development of a detailed cost-benefit study for the implementation of PACS across the HCCSJ campuses.

(103) The Vice President Medical Services and the Director of Diagnostic Imaging should initiate planning for the consolidation of all diagnostic imaging services at the Janeway/Health Sciences Centre

(104) The Director of Diagnostic Imaging should establish a General Radiology productivity target of 0.0360 worked hours per workload unit for 2002/03 and a productivity target of 0.0332 worked hours per workload unit for 2003/04.

5.5 Support Services

5.5.1 Dietary Services

Overview

HCCSJ contracts food services operation to CARA Operations Ltd. CARA is responsible for:

- Inpatient food services
- Non-patient food service
- Internal and external catering services
- Coordinating the food service component of the Dietician internship program

There are two major cafeterias, located at the HSC and the St. Clare's sites. Vending machines services are contracted with ARAMARK.

The following exhibit shows the three year trend for patient days and FTEs in food services. Patient Days has decreased by 40% since 1999/2000 and FTEs have decreased by 13%.

Exhibit 5.36
Food Services Statistics

Year	Days	FTE
1999/00	352,932	282.36
2000/01	342,988	258.76
2001/02	338,791	255.08

Organizational Design

The Director of CARA Operations, reporting to the Vice President of Administrative Services manages food services for HCCSJ. The Director is supported with the following management/supervisory staff:

- 1.0 FTE Retail Manager
- 1.0 FTE Central Kitchen Plant Manager
- 1.0 FTE Manager for Waterford Site, responsible for the daily operations of both the patient and cafeteria services and Logistics Administrator
- 1.0 FTE Manger for Miller Site, responsible for the daily operations of both patient and cafeteria services and IT/QI for Food Services
- 1.0 FTE Manager for St. Clare's Site, responsible for the daily operations of both patient and cafeteria services

- 1.0 FTE Manager for HSC Cafeteria
- 1.0 FTE Production Manger for Central Kitchen
- 1.0 FTE Manager HSC/Janeway, responsible for he daily operations of both patient and cafeteria services
- 1.0 FTE CARA Flex Managers, operational supervisors, trouble shooting food concerns, able to make menu adjustments, first line contact between site operational supervisors. They were formerly union supervisors and essentially do the same job
- 1.0 FTE Quality Control

Operations

The HCCSJ Central Kitchen is a stand-alone facility located off-site. The Central Kitchen is a full cook-chill facility. Full production including assembly is done on site. Bulk food is shipped to the cafeterias, food preparation is done by food services staff for all cafeterias.

The HCCSJ Central Kitchen has the following scope of services:

Site	Scope of Service
HSC	• Produce patient food trays (common non-selective menu) • Decentralized re-thermalization (heated on the Nursing Units) • Food service staff are responsible for bedside delivery
St. Clare's	• Centralized re-thermalization (done in the kitchen) • Food services staff are responsible for re-thermalization and delivery of food to the nursing unit. From this point on a MSA or nursing resource is used to deliver the tray to the bedside
Janeway	• Produces individual portioned meals for the Janeway which are shipped twice a week and stored on site. Food is dispensed using a method of 'choice at point of service' for patients, similar to a buffet style.
Waterford	• Centralized re-thermalization (done in the kitchen) • Food services staff are responsible for re-thermalization and delivery of food to the nursing unit. From this point on a MSA or nursing resource is used to deliver the tray to the bedside
Miller Centre	• Bulk food service and dining room service • Centralized re-thermalization (done in the kitchen) • Food services staff are responsible for re-thermalization and delivery of food to the nursing unit. From this point on a MSA or nursing resource is used to deliver the tray to the bedside

Site	Scope of Service
Bell Island	• Bulk food service, once a week

The following issues are related to the operations of food services:

- Method of patient food delivery differs across HCCSJ as outlined in the above table. For example, Food Service staff are responsible for bedside delivery at the General site but not at other sites. Standardizing these processes could streamline work for food service staff and reduce workload. The Vice President Administrative Services should evaluate the cost benefits of implementing consistent approaches to the delivery of patient food across all HCCSJ sites.
- Cara engineering analyses have identified that the current production lines are staffed to produce 3,200 trays per day. Present production is at 84% of staffed capacity (2,700 trays per day). Given the current volumes, it is feasible that half a line can be reduced. This can be achieved by shutting down earlier; for example employing two 6 hour lines which could reduce overhead costs and create more part time workers.
- There may opportunities to use more ready-made/pre-packaged foods in cafeterias.
- There is a daily nourishment delivery which consists of a between meals snack, and a night snack, provided to all sites. At the General/Janeway the nourishment is delivered to the bedside, while at St. Clare's, Waterford and Miller sites, it is delivered to the nursing station. Between meal time snacks are not common and consideration should be given to discontinuing this service.
- The night service should also be further investigated to minimize over stocking (there is a propensity for nourishment snack to be eaten by families and staff). The Director of Food Services should ensure that night nourishments are appropriate to meet patient needs.
- The current information system used in the Central Kitchen includes a production module that is not integrative to many aspects of food service operations. The current system creates manual work. Specific problems with system include:
  - Duplication of steps in designing dietary menus and ordering items.
  - Interfacing and programming issues with respect to custom calculations

  - System is not designed for cook-chill inventory-type environment.

  The Director of Food Services should work with the Director of Information Technology & Management to rectify the interfacing problems with the Food Services information systems.

- Food services is experiencing problems in securing temporary staff. The present collective agreement allows unionized staff to cross over from Housekeeping and Food Services. Peaks in daily workload could be more appropriately filled with 3-4 hours shifts, however temporary staff prefer to opt for the more attractive 7-hour housekeeping shifts. This results in higher Food Services labour costs (through the use of overtime and 7-hour shifts).
- Clinical Nutrition and Food Services are organizationally separate and this has caused a negative perception. Through interviews with staff, there exists an image of food services being mechanical and not involved in the patient planning component. For example, the relationship between clinical dieticians and food service managers (who are also dieticians) was noted to be strained due to the fact that dieticians are focused on efficacy of patient menus where as food service managers are focused on how cost-effective they are. There is a need for greater cohesion between the two related functions. The Director of Food Services should work with the Clinical Nutrition Practice Leader to enhance communication and align policies and procedures with respect to the patient planning component of Food Services.
- There are possible savings through re-designing the hours of operation for the cafeterias at various HCCSJ sites. CARA has submitted a plan to hospital management that outlines reduction in hours of service based on peak volumes and associated savings of $100,000.

Performance & Staffing

Food Service performance is measured as the department's net operating cost[91] per patient day. HCCSJ's performance compared with the peer teaching hospitals is presented below.

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[91] Net costs = gross operating costs less recoveries and equipment and depreciation costs

Exhibit 5.37
Food Services Performance Comparisons

		Net Cost per Patient Day
HCCSJ	1999/2000	$20.75
	2000/01	$33.81
	2001/02	$33.99
Peer Range 2000/01	Minimum	$19.19
	Top Quartile	$22.57
	Median	$24.18
	Bottom Quartile	$30.15
	Mean	$27.88

In 2001/02 Food Services achieved a performance of $ 33.99 net operating cost per patient day.

Food Service cost per patient day is below the bottom quartile performance level

HCCSJ's Food Service net cost per patient day is the highest from amongst the peer teaching hospital group. To achieve the top quartile performance, HCCSJ would have to reduce Food Services operating costs by approximately $3.8 million (approximately 33%). The top performing hospitals for this comparison include London Health Science Centre and Winnipeg Regional Health Authority. Food Service practices at these institutions should be investigated and adopted were possible. Achieving top quartile performance for would be difficult and may adversely effect current services.

Departmental Staffing Requirements

Based on our on-site interviews, observations and peer costs comparisons we are proposing a performance target of $30.15 net operating cost per patient day, equivalent to the bottom quartile performance level achieved by the peer group. This represents a net operating cost of savings of approximately $1.3 million, about 11% (including about 22.2 FTEs).

Within the total savings identified should include the reducing the management structure of food services. Excluding the Quality Control position the management to staff ratio is about 1:18. We recommend a 3.0 FTE management staffing reduction (resulting in a ratio of 1:20) as follows:

- 1.0 FTE HSC Cafeteria Manager - primarily responsible for the retail component of food services at HSC, specifically the Tim Horton's franchise and has no site specific duties. These responsibilities can be transferred to the HSC Site Manager.

- 1.0 FTE St. Clare's Site Manager - management responsibilities for the Miller and St. Clare's site can be merged into a singe position.
- 1.0 FTE Retail Manager - has no direct responsibility to manage any of the retail sites. The main role of this individual is to drive the corporate programs and responsibilities, image and marketing for the retail sites and provide weekly flash reports indicating financial performance of the different sites. These responsibilities (financial reporting, corporate effectiveness) could be transferred to the Logistics Administrator/Manager of the Waterford Site who already plays a similar role as a resource to the other managers.

It is recommended that:

(105) The CEO and Board should consider the merits of the CARA proposal to reduce cafeteria operating hours.

(106) The Director of Food Services should work with Housekeeping to develop and implement a plan to more effectively use temporary staff.

(107) The Director of Food Services should eliminate the between meals nourishment snack service.

(108) The Vice President Administrative Services should reduce the management structure of Food Services by 3.0 FTEs

(109) The Vice President Administrative Services should establish a performance target of $30.15 net operating costs per patient day.

5.5.2 Environmental Services

Overview

Housekeeping Services and the Central Laundry at HCCSJ were contracted to ARAMARK until August 2001. The Hospital chose not to renew the contract and now both departments fall under Environmental Services and is managed by a corporate director.

Environmental Services is responsible for providing routine and periodic cleaning for all sites of the HCCSJ. Service at each site includes maintaining patient rooms, office areas, public areas and clinical support areas. A central laundry service is operating and personal laundry services are provided for the residents of the Waterford Hospital, Leonard Miller Centre and the Dr. Walter Templeman Hospital at Bell Island.

Organization Structure

A corporate director reporting to the Vice President of Administrative Services oversees Environmental Services at HCCSJ. There are three site managers (one each for: H.S.C/Janeway, St. Clare's/Bell Island, Waterford/Miller Centre) who oversee day to day operations and report to the corporate director. The site managers are supported by Management Supervisors who work day and evening shifts to provide direct supervision to workers and are responsible for scheduling and payroll. Management Supervisors are non-unionized employees. Workers designated as Utility II are unionized supervisors who have same responsibilities of Management Supervisors except they cannot administer disciplinary action.

Although the organizational design of the department is relatively new, there seems to be a good relationship between the director, managers and supervisors with a strong emphasis on team work and communication at the management level.

The Department is currently working on a strategic plan to focus efforts and to improve and measure service levels.

The three year trend for net operating costs and FTEs in Housekeeping is presented in the following exhibit.

Exhibit 5.38
Housekeeping Statistics

Year	Net Costs	FTE
1999/00	$10,631,373	342.85
2000/01	$10,738,304	339.49
2001/02	$10,418,635	342.29

Since 1999/00 Housekeeping's net operating costs have increased by 1.7% and FTEs have decreased by 6%.

The three year trend for kilograms washed and FTEs in Laundry Services is presented in the following exhibit.

Exhibit 5.39
Central Laundry Statistics

Year	Kilograms	FTE
1999/00	2,991,158	85.40
2000/01	3,092,024	90.06
2001/02	2,894,026	90.86

Kilograms washed have decreased by 3% and FTEs have increased by 8% since 1999/00.

Operations

The past year has included significant operational events such as the Janeway re-location, the closure of the Grace Hospital and renovation/construction at various HCCSJ buildings. The Department has responded by re-aligning positions and adjusting staff routines.

Environmental Services has identified the need to focus on a corporate wide approach by developing standardized protocols for housekeeping services across all sites (e.g. OR cleaning, decontamination, office space cleaning). This includes working closely with Infection Control and clinical areas to develop appropriate cleaning policies for all areas (e.g., standardization of safety related incidence reports, training requirements, workplace inspections for the corporation, etc.).

The following observations are made:

- Staff require more training to support the infection control policies and procedures (i.e. dilution, isolation room procedures, checklist etc.).
- The department is lacking a corporate-wide standardized policy manual for staff that is up-to-date and considers the merged facility of HCCSJ.
- Results of recent staff focus groups have determined that Housekeeping staff morale is low – staff feel that they cannot meet the level of service that is expected of them.
- Cleanliness of some sites is impacted with the age of the buildings (in particular most of the St. Clare's building and some areas of the General).

- Housekeeping staff also do maintenance work (clogged toilets, shovel snow, change light bulbs, setting up rooms and tables) that overlap with responsibilities of Facilities Management. It is difficult to track this as it varies from site to site.
- Equipment is appropriate and complements current work processes.
- Housekeeping staff can be described as an aging workforce that is predominately made up of elderly females, many of whom have experienced serious illnesses.
- There is an opportunity to standardize products/supplies and there may be savings attributed to product standardization. It is Supervisors' view that there are too many chemicals in the organization and there is a need to simplify the chemical usage list.
- It is unclear how Medical Service Attendants (MSAs) are distributed across the organization and what their role is with respect to housekeeping. In some areas, MSA duties overlap with housekeeping duties while in other areas, housekeeping staff are performing work of MSAs, without the specialized training that MSAs receive.
- HCCSJ currently employs a central staffing function for housekeeping, dietary and Maintenance. This function has been moved under the management of Housekeeping in order to improve shift coverage.
- The organization provides housekeeping services to many external agencies, some of which are reimbursed (ex. MUN School of Medicine). There may be an opportunity to recover expenses of providing housekeeping services to some of these agencies (example College of North Atlantic [CONA]). An inventory of all external linkages should be done.
- Attendance in Central Laundry has been identified as a key problem for management of laundry services staff.
- Central Laundry has requested Mgmt Engineering perform a work-flow design study. Management feels certain areas of the plant are being underutilized and therefore are unproductive.
- A Mon-Fri evening shift that utilizes casual staff has been initiated in Central Laundry due to increased workload. There is a perception that this is unnecessary and results from inappropriate use of linen.

- Central Laundry is facing a reduction in revenue of approximately $540,000 due to possible loss of Nursing Home servicing

Performance & Staffing

Housekeeping performance comparisons are based on Housekeeping's net operating cost per square metre. HCCSJ's performance as compared to the peer teaching hospital range is presented in the following table.

Exhibit 5.40
Housekeeping Performance Comparisons

		Net Cost per Square Metre
HCCSJ	1999/00	$52.02
	2000/01	$45.83
	2001/02	$46.21
Peer Range 2000/01	Minimum	$43.16
	Top Quartile	$48.18
	Median	$49.64
	Bottom Quartile	$51.12
	Mean	$49.10

Housekeeping net cost per square metre is within the top quartile performance

HCCSJ's Housekeeping net cost per square metre is within the top quartile performance range of the peer group. There are only three other hospitals that are at or within the top quartile performance for this peer group.

The following are opportunities to further reduce operating costs:

- The site managers are supported by Management Supervisors (non-unionized) who provide direct supervision to workers and are responsible for scheduling and payroll. There are two Management Supervisors at each site. In total there are 3 non-unionized management personnel for each of the combined site responsibilities.
- In addition to non-unionized staff there are unionized staff designated as Utility II, who service as Supervisors and have the same responsibilities of Management Supervisors except for administering disciplinary action.
- The scope and level of cleaning activities at the combined Waterford/Miller Centre sites is not as intense as the other acute care sites yet it has the same level of management

staffing. We recommend that 1.0 FTE Management 1.0 FTE Management Supervisor position be reduced.

- There are 6.2 FTE utility workers providing personal laundry services for patients at the Waterford Hospital and the Miller Centre. It is not uncommon for hospitals and health care organizations to provide this type of personal laundry services (either internally or through an external service provider) to patients and residents. The costs are typically recovered from patients receiving this service. It was reported to us that the cost of one of these positions is funded by the Department of Veterans Affairs. Currently, HCCSJ is not recovering any of the costs of the other 5.2 FTE positions providing these services.

We recommend that the HCCSJ evaluate the potential to recover these costs (approximately $165,000 per year) of providing personal laundry services.

Central Laundry net cost per kilogram is within the top quartile performance

Laundry and Linen Services performance comparisons are based on Laundry's net operating cost per kilogram washed. HCCSJ's 2001/02 performance as compared to the peer teaching hospital range[92] is presented in the following table

Exhibit 5.41
Laundry Productivity Comparisons

		Net Cost per kilogram
HCCSJ	1999/00	$1.02
	2000/01	$1.08
	2001/02	$1.17
Peer Range 2000/01	Minimum	$1.00
	Top Quartile	$1.00
	Median	$1.01
	Bottom Quartile	$1.23
	Mean	$1.15

HCCSJ's Central Laundry net cost per kilogram is more than the median performance of the peer group.

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[92] Unfortunately, only 3 comparators provided productivity measures for laundry.

It should be noted that HCCSJ inadvertently provided us with pounds of laundry in stead of kilograms of laundry for comparison purposes. The correction was provided to us too late to allow for follow-up analysis of Laundry Services. . Based on the measure provided, there may be a saving opportunity of as much as $0.49 million if performance equivalent to the top quartile was realized. The hospital and the Department should investigate this opportunity as one of the first activities of the recovery plan.

It is recommended that:

(110) The Vice President Administrative Services should reduce Housekeeping staffing by 1.0 FTE Management Supervisor.

(111) The Vice President Administrative Services evaluate the potential to recover the cost of providing personal laundry services.

5.5.3 Materials Management Services

Overview The management of materials and supplies at HCCSJ encompasses the following services:

- Purchasing (excluding food and drug purchasing)
- Inventory and Distribution (including printing and mail services)
- Materials Processing (CSR)

The management organization consists of 7 FTEs as follows;

- 1.0 FTE Director Materials Management
- 1.0 FTE Purchasing Manager
- 1.0 FTE Manager Inventory/Distribution
  - 1.0 FTE Institutional Supplies Coordinator – Waterford/St. Clare's/Miller Centre
  - 1.0 FTE Institutional Supplies Coordinator – Health Sciences Centre
- 1.0 FTE Materials Processing Manager
  - 1.0 FTE C.S.R. Supervisor – St. Clare's

The current year to date actual FTEs reported is 157.54 FTEs[93], as compared to 160.84 FTEs in 2000/01. Key operating characteristics and findings include the following:

- Consolidation of six materials management services within a single department was initiated in the fall of 1995. Over this time period the staffing budget has been reduced by 41.2 budgeted FTEs (approximately 26%). Approximately 50% of these reductions have occurred since 1999/2000. In addition to these reductions 11.5 FTEs were transferred to other areas:
  - 5.0 FTEs (MSA I's) transferred to HCS Nursing for replenishing nurse supply cupboards in each room (1998/99).
  - 5.5 FTEs (MSA I's) transferred to St. Clare's Central Patient Portering pool managed by Diagnostic Imaging (1998/99)
  - 1.0 FTE (Personal Care Attendant) transferred to Janeway Child Health Program (1999/2000)
- Six inventory locations have been consolidated into two inventories (St. Clare's and H.S.C.). Just-In-Time inventory services are provided to the Miller Centre and Waterford Hospital. Physical limitations at H.S.C. have not permitted the department to achieve its goal of a single inventory.
- A centralized purchasing model to provide corporate purchasing services across the organization has been formed and established at the Waterford site. With the exception of Food Services and Pharmacy, Purchasing is responsible for contract negotiation and buying for all areas of the corporation. Compliance with buying groups is adhered to (Provincial Central Purchasing Group, Newfoundland and Labrador Health Board Buying Group). All crown corporations are required to obtain pricing from 3 vendors for tenders (greater than $10,000). The department routinely compares prices with other buying groups (such as MedBuy). Approximately 90% of all items were reported as being under contract.
- A Product Evaluation and Standardization Committee is in place and utilized.
- Significant supply/service cost savings have been realized though product standardization, contract consolidation and

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[93] Includes Bell Island and Miller Centre Materials Management FTEs.

other initiatives. Approximately $700,000 in new supply/service costs savings are realized and tracked on average each year.

- Four sterile processing areas have been consolidated to two locations (St. Clare's and H.S.C) and an OR case cart system has been implemented. A single central processing service was determined not to be feasible due to a lack of instruments and tray sets required to support a centralized service and maintain appropriate service levels to ORs.
- A single materials management information system was adopted and inventory items were standardized across sites. A common catalogue for both stock and non-stock items has been established.
- Purchasing and supply delivery services are provided to a large number of community health agencies and individuals. Costs are recovered based on a 15% mark-up on purchase prices. In 2000/01 external sales were $2,458,080.
- Formal and regular monitoring/evaluation of vendor performance is conducted
- Effective use of information systems is made:
  - Real-time perpetual computerized inventory control system
  - All major vendors receive orders via EDI. Approximately 65% of purchase order lines are transmitted via EDI.
  - Vendors have access to tenders on an HCCSJ website
  - On-line ordering/requisitioning is available to most users through out HCCSJ
- Inventory is closely monitored on a monthly basis:
  - Inventory turns over between 12 – 14 times per year
  - Year end physical inventory variance was less than $300 (0.0002%) in 2000/01
- Sick leave hours per FTE have been reduced on average by 25% per FTE in 2000/01 as compared to 1999/2000

Material Management's reported performance is near the top quartile

Performance comparisons for Materials Management are based on the department's net operating costs as a percentage of the Hospital's total net direct care operating costs[94]. HCCSJ's performance as compared to the peer teaching hospital range is presented in the following table.

Exhibit 5.42
Materials Management Performance Comparisons

		Net Costs as % of Hospital Net Direct Costs
HCCSJ	1999/2000	3.57%
	2000/01	3.15%
	2001/02	2.94%
Peer Range 2000/01	Minimum	1.22%
	Top Quartile	2.76%
	Median	3.45%
	Bottom Quartile	3.88%
	Mean	3.40%

HCCSJ's Materials Management 2000/01 performance has been improving and it now approaches the top quartile performance and is better than the median and mean performance levels for the peer teaching hospital group. The decreasing percentage over the past three years is reflective of the restructuring that has taken place over this time period. The current reporting of costs and revenues for Materials Management excludes the reporting of external sales, while the costs associated with this service are included. Taking into account these revenues would place the Materials Management performance within the top quartile.

Impact of Facilities and Equipment

The impact of facilities and equipment on Materials Management includes the following:

- The lack of storage space at any of the sites has prevented the consolidation of all inventories in a central location. This results in maintaining higher inventory levels, resulting in higher carrying costs and an increased number of purchase orders and accounts payable transactions associated with maintaining two inventories versus one. As well any potential benefits from integrating receiving and stores staff are limited.
- CSR service is directly impacted by the lack of dedicated/direct access to the OR's at both the St. Clare's and

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[94] Net costs = gross costs less external recoveries and excluding depreciation/equipment related costs.

HSC sites. Existing Service elevators must be used which are shared with other Hospital support services. While the St. Clare's CSR does have a "dumb waiter" elevator its use is limited. The HSC's CSR is not located directly below the ORs, thus dedicated service elevator access was not planned for. The lack of dedicated clean and soiled elevator access to the ORs results in added transportation time in delivering case carts and turnover of trays/instrument sets.

- The General Campus was designed and constructed under the Friesen concept. Within this concept patient/room specific supply servers located at/near patient rooms are intended to minimize the time nurses spend in traveling for supplies. However from a materials management perspective, this model is likely the most costly (both in labour and inventory costs) approach to supply management since there are significantly more supply locations as compared to a traditional model (which use central supply rooms). Staff (MSAs) responsible for this replenishment, were transferred (5.0 FTEs) from the Materials Management budget in 1998/99 to nursing services. Consideration should be given to renovating each of the floors to minimize the number of supply locations, and thus reducing the reliance on MSAs for supply replenishment.
- The Materials Processing areas reported a shortage of instruments and procedure trays which contribute to missing/lost instruments, hoarding and excessive flash sterilization in the ORs. The St. Clare' reprocessing area reported that though there was a transfer of surgical services from the Grace Hospital, there were no instruments transferred to St. Clare's.

Opportunities to Improve Performance

The Operating Rooms is the primary customer of the central processing area. To provide an effective, efficient and reliable OR case cart system necessitates that the CSR is provided with timely and reliable information pertaining to the booking and scheduling of OR cases. It was reported that there are a significant number of add on cases on a daily basis which directly impact the service's CSR's ability to plan and deliver service. This will also lead to a shortage of instruments and instruments not being returned (will be flashed sterilized in the ORs for use). This finding is confirmed and further discussed in our review of the Peri-Operative Program. The recommendations made to improve the OR booking and scheduling will directly impact upon the efficiency and reliability of the CSR services and use of instruments.

The reprocessing areas are currently undergoing a detailed review by the Management Engineering Department. This study will focus on all aspects of the service - staffing, workload, equipment, instruments, processes, workflows, etc. This initiative is supported by the consultants. It is suggested that an instrument tracking system be implemented as soon as possible to be used to assist in the tracking of lost and misplaced instruments. This recommendation has been made within our review of the Operating Rooms.

Departmental Staffing Requirements

There are no recommended changes to existing staffing within Materials Management.

It is recommended that:

(112) The Vice President Administrative Services should conduct a cost benefit analysis of renovating existing General site floors to reduce the number of supply storage locations and achieve reductions in staff resources (Nursing Unit MSAs) required for supply replenishment.

5.6 Administrative Services

5.6.1 Admitting/Registration Services

Overview

The Admissions Management Department is a newly formed department (May 2001). The former Admitting/Registration function was re-organized to better consider patient flow and discharge planning.

The functions of admitting, registration, booking and scheduling at HCCSJ are a combination of centralized and decentralized services, with scope, accountability and responsibility for these functions varying between sites.

Scope of Services

The Admission Management Department is responsible for the following scope of services:

Health Science Centre	St. Clare	Waterford	Miller Centre
Janeway: 7-4:30 5 d/wk General: 24 hours/day 7d/wk	24 hrs/day, 7d/wk	8am – 4pm, 7d/wk	8am – 4pm, 7d/wk
• Admission and registration of Ambulatory clinics • All inpatient admissions for HSC • OR Bookings for all ORs • Bed census clerk at General site manages census activity • Appointment scheduling for Janeway ambulatory Med/Surg clinics, • OR bookings done at the General site (include pediatric and women's health OR) • Registration for Med/Surg, Child health and Neuro clinic • Requested to do psychiatry registration (pediatric) • Nuclear Medicine registration	• Primary registration for all admissions • Admitting and bed census management • OR bookings • No ambulatory clinic registration	• Ambulatory clinics • Inpatient admitting/registration • After hours, all admissions are done the next day	• Ambulatory clinics • Inpatient admitting/registration • After hours, all Miller all admissions are done by General

The Dr. Walter Templeman Centre (Bell Island) manages admission and registration functions separately and do not report under the Admissions Management Department.

Decentralized and distributed functions that are not the responsibility of Admissions Management include the following:

General/Janeway	St. Clare's
• Surgical day care • Labs do their own registration for procedures • Radiology book their own patients at the General • EKG registrations • Dental and eye clinics • Psychiatric clinics	• Ambulatory care clinics do their own admitting/registration • Emergency registration except for 12am-8am registrations

There are a series of ambulatory clinics which are mainly mental health-related that are secondary registration sites. These patients could be registered at the primary registration site, but it is a matter of setting up the processes. The clinics register using the Meditech system (each site is equipped with Meditech) and the department oversees for quality purposes and training.

Organization Structure

A corporate Director of Admitting Services, reporting to the Vice President, Quality and Planning, manages the HCCSJ Admitting and Registration Department. An Admission/Registration Manager reporting to the Director is in place to oversee the day-to-day operations of the services at all sites. This individual is responsible for functions related to admitting system maintenance, census reporting (census, etc.), and utilization management reporting such as statistical reporting.

Admission/Discharge Facilitators, reporting to the Director, coordinate admissions and discharges. They screen patients, elective admissions, and determine appropriateness. An externally researched appropriateness tool is used in this process[95]. A Manager of discharge planning reporting to the Director, and oversees the expected date of discharge project and develops policies, procedures and guidelines related to discharge planning.

Since 1999/00 the number of FTEs has decreased by approximately 25%.

The following initiatives have been identified as key priorities for the Admissions Management Department:

- The department has deployed standardized procedures and registration forms corporate wide. The department maintains a close link with Health Records and the Quality program to maintain standards and communicate changes.
- The department is starting a new project with Newfound and Labrador Centre for Health Information to develop a Unique Patient Identifier (UPI). This is a system that will record all people who access the health system.
- Expected Data of Discharge Pilot Program: A program that aims to improve the corporate discharge processes based on timely awareness and communication of appropriate lengths of stay
- Capturing ALC: Pilot study of computer entry of ALC patients with goal of improving tracking of accurate ALC days and timely communication of patients currently designated ALC.
- Currently there are no linkages from doctors' offices to receive pre-admission information and there is a reliance on traditional paper based pre-registration forms.

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[95] The tool used is the same as the modified Appropriateness Evaluation Protocol which is employed in by Parfary et al. the study "The Efficiency of Utilization of Acute Care Beds in Newfoundland and Labrador"

- Interdisciplinary Rounds: Introduction of draft guidelines for interdisciplinary rounds, pilot pending.
- Policy Development: Draft policies are being developed for ALC, patient refusals, outside agency refusal policy, and patient private room accommodation.

Operations

Registration of all patients occurs through a central registration system where a corporate patient registration identification card is issued. Centralized scheduling of all operative procedures in collaboration with the Per-operative Program occurs through central O.R booking offices.

The following observations are made:

- There are currently issues around standardization of procedures with respect collecting data, training staff, registration processes across sites.
- Managers have expressed difficulty in acquiring temporary staff for admitting/registration function.
- There is a focus on discharge planning and the department is taking an aggressive approach to managing length of stay. Education is a key driver of this strategy and the Expected Date of Discharge Pilot Program is helping in facilitation.
- Other external factors that affect intake and volume, for example regional services are impacting volume at HCCSJ.
- It was indicated that >50% of admissions occur after 4pm at the HSC. A major reason identified for this was that physicians are slow to authorize discharge orders.

Performance & Staffing

For purposes of performance comparisons with peer hospitals we use a weighted registration workload unit as follows:

- Inpatient admissions + 10% of all ambulatory care visits (emergency room, day surgery, day care, & clinic visits)

Performance is measured and compared as the total worked hours per weighted workload unit.

Admissions Management worked hours per weighted workload unit is above top quartile performance

HCCSJ's 2001/02 performance is 0.63 worked hours per weighted workload unit that is the lowest of the peer group. This comparison indicates that HCCSJ's Admission Management is above the top quartile performance as compared to the peer group.

Exhibit 5.43

Admitting Productivity Comparisons

		Worked Hrs. per Wtd. Wlkd. Unit
HCCSJ	1999/00	1.50
	2000/01	1.23
	2001/02	0.64
Peer Range 2000/01	Minimum	0.66
	Top Quartile	1.10
	Median	1.25
	Bottom Quartile	2.39
	Mean	2.22

The significant improvement in productivity is a direct result of an 84% increase in weighted registrations since 1999/2000 and a 77% increase since 2000/01. This reflects a significant change in reporting of visits and admissions in the current fiscal year.

Recognizing that there is no national workload measurement system, performance comparisons for Health Records were are also conducted based on the total worked hours per weighted case to further substantiate these comparisons.

Exhibit 5.44
Admitting Worked Hours per Weighted Case

		UPP + M&O Worked Hours per Unit of Workload
HCCSJ	1999/2000	1.77
	2000/01	1.42
	2001/02[96]	1.29
Peer Range 2000/01	Minimum	0.50
	Top Quartile	0.92
	Median	1.25
	Bottom Quartile	1.39
	Mean	1.20

HCCSJ performance for the current year is near the median and mean performance levels of the peer group. Since 1999/2000 performance has improved by 27% which reflect the reduced staffing of 25%.

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[96] For purposes of this analysis the weighted cases from 2000/01 were used as a proxy for this year's weighted cases.

We propose that Admitting/Registration maintain their current level of productivity.

It is recommended that:

(113) The Vice President of Quality and Planning should develop and implement standardized policies, processes and accountabilities for patient registration and training of staff across HCCSJ.

5.6.2 Health Records Services

Overview

Health Records provides services for HCCSJ at all five sites. The services provided by Health Records include abstracting and coding, file retrieval, delivery and storage and transcription services[97] for clinical programs and services.

The Department has a Director with overall responsibility for three divisions: Transcription and Release, Clinical Information and Patient Information Flow. Each division has a manger, who is responsible for day to day operations. There were 143.9 FTEs in 2000/01 and 146.12 forecasted for 2001/02. The organizational design of the Health Record department is appropriate to ensure that it achieves its mandate.

The Corporation uses the provincial health plan registration number as the unique patient identifier (Master Patient Index or MPI). The use of a common patient identifier serves to unify health records between the five sites, thereby simplifying the consolidation of and access to individual health records.

The Health Records Department has realized several achievements. These include the use of a Central Patient Index and the extensive use of Meditech and 3M technologies as building blocks for the electronic patient record (EPR). The ongoing transition towards a complete electronic patient record will result in significant departmental operational improvements and enhance patient care processes.

Health Records performance is worse than the top quartile

Since there is no national workload measurement system, performance comparisons for Health Records we use the following measure of workload, based on the consultants' experience. Workload equals: inpatient acute cases plus 75% of Day Surgery cases plus 25% of ER visits, plus 5% of outpatient clinic visits. Productivity is measured as worked hours per unit of workload (equivalent inpatient case). Health Records at HCCSJ appears to have a productivity level that is worse than most peers.

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[97] Excluding diagnostic imaging and pathology

Exhibit 5.45
Health Records Worked Hours per Workload Unit

		UPP + M&O Worked Hours per Unit of Workload
HCCSJ	1999/2000	1.29
	2000/01	1.44
	2001/02	1.27
Peer Range 2000/01	Minimum	1.02
	Top Quartile	1.05
	Median	1.08
	Bottom Quartile	1.33
	Mean	1.17

The productivity is consistently worse than the top quartile, and is near the bottom quartile. Performance at the top quartile performance level would result in a reduction of 25.05 FTEs.

Recognizing that there is no national workload measurement system, performance comparisons for Health Records were are also conducted based on the total worked hours per weighted case to further substantiate these opportunities.

Exhibit 5.46
Health Records Worked Hours per Weighted Case

		UPP + M&O Worked Hours per Unit of Workload
HCCSJ	1999/2000	4.34
	2000/01	4.45
	2001/02[98]	4.33
Peer Range 2000/01	Minimum	1.89
	Top Quartile	2.10
	Median	2.36
	Bottom Quartile	2.39
	Mean	2.30

Using weighted cases as the measure of workload, productivity performance at the top quartile level would save approximately 73.04 FTEs. These analyses would suggest that there are significant opportunities to improve the overall productivity of the department.

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[98] For purposes of this analysis the weighted cases from 2000/01 were used as a proxy for this year's weighted cases.

Impact of Facilities and Equipment

Health Record service areas are located at each of five HCCSJ sites. Records that are generally more than five years old are archived off-site.

Due to time constraints, the health record storage was toured only at the HSC site. This area seems inadequate to meet the health record storage requirements of the HSC site. The staff working areas are congested and the medical staff health records room is crowded with limited working space.

The Transcription Division is centralized to the Waterford site. The working area is spacious and adequate to the working requirements of the transcription staff.

Opportunities to Improve Performance

Opportunities to improve the performance of the Health Records Department include the following:

- Improved clarity of voice dictation by physicians would improve the productivity of the transcription pool.
- There is a significantly high number of edits/changes and repeat dictations of the original transcription. On-line editing/changes of transcribed reports by physicians would improve report turnaround times and reduce back-logs.
- Diagnostic Imaging has its own transcription service, also centrally located at the Waterford Hospital. The DI services has good integration with the radiologists to use some aspects of the DI reporting system directly (on-line editing and electronic signatures), thereby reducing turnaround time and improving productivity. There may be merit in the Health Records service pursuing a similar model and/or merging with the DI transcription function. Recommendations made under Diagnostic Imaging include the management transfer of DI transcription services to Health Records.
- There may be merit in moving the transcription service off-site as many hospitals are now doing (contracting with a service or with individuals).
- Health Record abstracting and coding is complicated by poor physician documenting practice. Clear guidelines needs for record documentation need to be established and enforced.
- There are a few physicians who are regularly behind in chart completion. These incomplete charts cause delays in

abstracting and coding, thereby challenging the Department's mandate of providing timely data for CIHI submission and to effectively support internal utilization management and operational planning initiatives. The Vice President Medical Services and the Chair of the MAC should establish a Health Records Committee as a subcommittee of the Medical Advisory Committee to address and resolve physician performance as it pertains to problems in completing the health record in a timely fashion.

The Vice President of Administrative Services and Vice President of Medical Services should evaluate the potential to extend the features on-line editing and electronic signatures to physicians.

The Director of Health Records should provide training to physicians on the proper use of the telephone dictation system.

- There has been an increasing demand for access to health records information from external stakeholders. These stakeholders include the insurance industry and the legal system. The division recently increased its rates for charging external requests for release of health information.
- Workload measures should be established and monitored, such hours records coded per day and lines or minutes transcribed per hour. Staff performance against these measures should be part of the performance appraisal process.
- Health Records management believes that there are significant cost savings opportunities in human resources (10 clerical positions), supplies (paper) and distribution costs (e.g., courier costs) from complete implementation of an electronic patient record. However, the complete electronic patient record remains several years away.

Departmental Staffing Requirements

A staffing reduction of 12.1 is recommended. This reduction is based on achieving a performance equivalent to the peer mean performance level of 1.17 worked hours per workload unit (not per weighted case).

It is recommended that:

(114) The Director of Health Records should investigate alternative approaches to transcription services, such as external service providers and at-home transcription.

(115) The Director of Health Records should include performance to workload standards as a standard part of an employee's performance evaluation process.

(116) The Director of Health Records should establish a productivity target of 1.17 worked hours per workload unit.

5.6.3 Information Management & Technology

Overview

The Information Management and Technology (IMT) Department has undergone much re-structuring and development in the past three years. The merging of five facilities of the corporation has represented a major challenge for designing and providing information services and the department has been consumed with developing the appropriate infrastructure to support this. An Information Management Committee (IMC) has been organized to guide the strategy of the department and set up a process. The IMC is a multi-disciplinary group with good representation from across the organization. The two co-chairs of the IMC also sit on the senior management team.

A draft corporate Information Management Strategic Plan has been developed by the IMC. The plan focuses on the integration of financial, clinical and human resources data to provide information that will be useful for making informed decisions.

A Corporate Director reporting to the Vice President Administrative Services oversees department and is supported by two managers. A manager for Application Development & Support is responsible for the implementation and support of vendor purchased and in-house developed computer bases solutions for the HCCSJ. A manager for Networks & Operations oversees the operation of computer equipment and software throughout the corporation.

Since 1999/00 department's operating costs have increased by 7% and FTEs have decreased by 2% as presented in the following exhibit.

Exhibit 5.47
IMT Operating Costs and FTEs

Year	Net Costs	FTE
1999/00	$3,999,699	31.00
2000/01	$3,997,755	30.22
2001/02	$4,282,070	30.32

Operations

The following observations are made:

- There are roughly 3,500 workstations operational across the organizational. 1,500 of these are PCs functioning in a windows-based environment. 2,000 of these are dedicated terminals that run the Meditech information system. The current policy for upgrading workstations (hardware and software) is to upgrade on an as necessary basis. However there is a strategic objective to replace approximately 300 terminals with PCs per year. Large scale organization-wide roll out of hardware and software is difficult given the current resources available.
- The department services multiple sites/buildings, they include: Waterford, St. Clare, General HSC & Janeway, Miller Centre, old Janeway hostel (offices and outpatient clinics), Dr. Walter Templeman Centre, ambulatory clinics, central laundry, central kitchen. Application issues are dealt with remotely using SMS
- It has been identified that there is a problem in extracting useful data out of the current information systems in order to inform management decisions. Part of this problem is due to disparate information systems and the inability to integrate, for example, HR systems with financial systems. The department is working toward the development of a true Decision Support System (DSS) which can utilize the data currently captured in their Meditech environment. They have identified that the first step is to integrate administrative and clinical data into a central data repository.
- HCCSJ utilizes in-house developed software for certain niche systems in the organization. In some cases these applications are able to be interfaced with other systems. These are mostly

Microsoft Access databases, with a reporting function (for example: vascular labs database reporting system.). These services are currently provided and maintained by the Applications Development Group of the department. These types of services are a 'short-term fix' to a true DSS and from a standardization perspective, non-desirable. This group continually receives requests from users for customized applications that will extract data in order to make informed management decisions. The development and support of customized applications/databases should be discontinued to allow for more focused use of resources to meet corporate-wide needs.

- The Director of Information Management and Technology should adopt where possible the standardization of hardware, software and information management processes across the organization.
- The CEO and Vice President Administrative Services should ensure that the benefits of information systems are planned and realized, with a focus on leveraging information systems to bring about improvements in overall effectiveness/efficiency of the HCCSJ and the health system.
- IT&M human resources has been identified as a major barrier to growth. As the demand for IT increases in the organization and workload intensifies, the problem of recruitment of skilled IT&M resources is heightened. This is further offset by the need for HCCSJ to recruit individuals skilled in the Meditech environment. It is also difficult for the HCCSJ to compete with the private sector industry in Newfoundland with respect to compensation for IT professionals.
- Interviews with managers and staff have indicated that there is a perception that the corporation is slow to respond to the needs of the users with respect to information technology. For example, Admissions Management staff have expressed difficulty in obtaining utilization reports electronically.

Performance & Staffing

HCCSJ's 2001/02 Information Technology and Management net operating costs[99] as a percent of direct care excluding equipment is 0.8%. This falls within the top quartile performance as compared to the peer group.

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[99] Net operating costs = gross operating costs less recoveries, depreciation and equipment.

Information Management & Technology performance comparison is within the top quartile

Exhibit 5.48
IM & T Performance Comparisons

		Net Cost % of Direct Care
HCCSJ	1999/00	0.89%
	2000/01	0.78%
	2001/02	0.80%
Peer Range 2000/01	Minimum	1.65%
	Top Quartile	2.32%
	Median	2.88%
	Bottom Quartile	3.47%
	Mean	2.94%

There have been only minor increases and restructuring in staff in the past six years. When first consolidated the department had approximately 27 FTEs and now has 30 FTEs. HCCSJ has recently conducted a staffing analysis which concluded that 11 more FTEs would be needed in order to complete implementation of future projects that have been identified as high priority.

The above analysis would suggest that HCCSJ is spending considerably less on information resources (human resources) than other peer teaching hospitals. An Increase of 11 FTEs would increase the IS cost performance[100] level to 1.14%, which is still within the top quartile.

Future projects could act as drivers for increased costs and workload. The following projects were identified as priority projects for future consideration:

- Development of a central data repository and purchasing of data mining/OLAP tools ($400,000 - $700,000).
- Doctor offices to be connected to HCCSJ (20 private clinics are in the process) through a virtual private network
- Remote access for HCCSJ staff through virtual private network
- Upgrading the Network Infrastructure

HCCSJ has spent the last few years merging information systems and IT departments from separate sites into one consolidated entity. The organization is now in a position to further develop its technical infrastructure, in order achieve its information management objectives.

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[100] Based on 11 FTEs @ $60,000 per year plus benefits.

It is important for hospitals to maintain their investments in information and information systems and technology both to enable patient care and other processes and ultimately to support patient-focused service delivery across multiple organizations. Hospitals must ensure that they are leveraging these investments to obtain valuable returns such as more timely and more effective patient care, streamlined processes, e-health (consumer focus and empowerment, overcoming geographic and temporal barriers), improved risk and utilization management. They should also ensure that they obtain financial returns through clinical efficiency and productivity improvement.

The end results should be systems and processes in place to manage information effectively and inform decision making.

It is recommended that:

(117) The Vice President Administrative Services and Director of Information Management and Technology should develop a long term capital plan that reflects prioritized needs articulated in the IM&T strategy.

(118) The Vice President Administrative Services and Director of Information Management and Technology should implement benefit-realization programs for each major IT/IS initiative.

(119) The Vice President Administrative Services should increase information resources by 11.0 FTEs, either through new hires or through contracted service.

5.6.4 Human Resources

An HR operational review conducted by Hewitt Associates[101] in the Fall of 2001 concluded that the present overall HR staffing levels are appropriate when benchmarked against the Human Resources Benchmarking Network Study 2001, the Saratoga Institute Benchmarking Study 2002 and the Best Companies Study 2001. We concur with this conclusion and further their recommendation to enhance levels of service through improvements to the current HR technology infrastructure. It should be noted that the implementation of an early intervention attendance management program may require additional HR staff resources supported by a business case for significant cost savings.

5.7 Summary

The following exhibit provides a summary of the expected annual operating cost impacts of recommendations, based on 2001/02 forecasted volumes and workloads. Achievement of the recommended performance levels would have resulted in $17.1 million in operational savings for 2001/02.*

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[101] Hewitt Associates HR Operational Review Status Report , November 2001

- Although we are confident that the recommended functional centre productivity targets are achievable, the operational efficiency savings estimates may be overstated slightly because of inaccuracies in HCCSJ's MIS trial balance data that could not be corrected as part of this study.

Exhibit 5.50
Potential Annual Savings in Departmental Operations

Area	Initiative/Recommendation	FTEs Actual Impact	Annual $
Corporate	Minimize call in for sick relief	-21.09	-$915,294
Bell Island	Conversion to Primary Care Centre		-$708,534
Emergency Depts.	Discontinue Janeway Telephone/Poison Control Line	-3.00	-$166,975
	General Productivity Improvements	-12.66	-$704,636
	General/Janeway ER Consolidation	-6.80	-$378,478
ORs/PARRs	Temporary Closure of One OR	-3.00	-$158,801
	PARR Productivity Improvements	-3.77	-$234,826
	OR Productivity Improvements	-2.44	-$150,883
Critical Care	CCU Productivity Improvements	-11.69	-$728,149
	ICU Productivity Improvements	-34.51	-$2,149,565
Nursing Administration	Reduce Administrative Directors	-3.00	-$267,258
Medical/Surgical Program	Medical Program Productivity Improvements	-21.13	-$1,176,063
	Surgical Program Productivity Improvements	-11.84	-$658,996
Child Health	Reduce Janeway Management Structure	-1.00	-$75,411
	PICU Productivity Savings	-11.56	-$643,412
	NICU Productivity Savings	-19.95	-$1,110,386
	Pediatric Inpatient Productivity Savings	-32.17	-$1,790,533
Mental Health	Psychiatry Unit Productivity Improvements	-32.27	-$1,796,099
Rehab & Continuing Care	Reduced Management Structure	-1.00	-$75,411
	Chronic Care Productivity Improvements	-10.83	-$603,654
	Intermediate Care Improvements	-5.06	-$282,039
Allied Health	Productivity Savings	-15.00	$792,681
	Replace PCC model with Program Council Model	-6.25	$425,068
Pharmacy	Reduced Management Structure	-1.00	-$81,091
Housekeeping	Reduced Management Structure	-2.00	$136,689
Dietary	Reduced Management Structure	-3.00	-$183,469
	Operational Cost Savings (Staff and materials)	-19.16	-$1,118,461
Health Records	Productivity Savings	-12.10	-$393,686
Information Systems	Increase Support	11.00	$820,710
Total Operational Costs Savings		**-296.28**	**-$17,085,838**

Of the savings identified, the recommendations to minimize call in for sick time relief and the temporary closure of one OR were recommendations to address short savings opportunities. These recommendations should not extend past the 2002/03 fiscal year. The following exhibit summarizes and separates these short term cost savings from other cost savings.

Exhibit 5.51
Potential Annual Savings in Departmental Operations

Bell Island		-$708,534
Special Care Areas (ER, OR/PARR, CC)	-74.87	-$4,513,512
Nursing Services	-149.81	-$8,479,261
Therapeutic Services (Allied & Pharmacy)	-22.25	-$1,298,840
Support Services (Hskg & Dietary)	-24.16	-$1,438,619
Administrative Services (Health Records & IS	-1.10	$427,024
Sub-Total Operational Cost Savings	**-272.19**	**-$16,011,743**
Temporary Closure of One OR	-3.00	-$158,801
Minimize call in for sick relief	-21.09	-$915,294
Sub-Total Short-Term Cost Savings	**-24.09**	**-$1,074,096**
Total Operational Cost Savings	**-296.28**	**-17,085,838**

Thus, the net effect of the proposed operational changes will be a reduction in the hospitals net operating losses of approximately $16 million per year[102]. (Realization of some of these cost savings will require one time severance/termination costs and other investments.)

Excluded from the potential savings are operational savings associated with Clinical Laboratories, Diagnostic Imaging and Laundry Services. Given the significant concerns related to the quality and reliability of the reported workload and staffing data for Laboratories and Imaging Services, the potential savings derived from the data provided to this review have not been included in these summaries. The currently available data suggests potential additional savings of $1.01 and $1.06 million for the Laboratories and Diagnostic Imaging Services respectively if the recommended targets were achieved. Also, workload data for laundry and linen were corrected too late to allow for confirmation of the potential saving as part of this study. If the data are correct, than an additional $0.49 million could be realized if the functional centre achieved the top quartile level of performance. The hospital and the department should investigate and confirm these additional savings opportunities as one of the first steps in the recovery plan. Taken together they would provide an additional $2.56 million in annual operating cost savings.

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[102] These operating cost savings and increases in revenue relate only to changes in departmental operations. They are independent of the potential cost savings from clinical efficiencies planning.

5.8 Timing of Potential Savings in Departmental Operations

It is estimated that a 3-year time frame will be required to fully realize the estimated savings from improvements in departmental/functional centre operations. The following exhibit provides our estimated timing of the identified potential savings opportunities.

Exhibit 5.52
Timing of Potential Annual Savings

Area	Initiative/Recommandation	Timing/Phasing Comments
Corporate	Minimize call in for sick relief	Short-term until end of 2002/03
Bell Island	Conversion to Primary Care Centre	Initiate role & services review now; implement new role in 4th quarter of 2002/03
Emergency Depts.	Discontinue Janeway Telephone/Poison Control Line	Implement immediately
	General Productivity Improvements	Full implementation by end of 2002/03; initiate implementation ASAP.
	General/Janeway ER Consolidation	Plan for implementation in 2004/05
ORs/PARRs	Temporary Closure of One OR	Short-term until 2001/02 only
	PARR Productivity Improvements	Full implementation by end of 2002/03; initiate implementation ASAP.
	OR Productivity Improvements	Full implementation by end of 2002/03; initiate implementation ASAP.
Critical Care	CCU Productivity Improvements	Full implementation by end of 2002/03; initiate implementation ASAP.
	ICU Productivity Improvements	Full implementation by end of 2002/03; initiate implementation ASAP.
Nursing Administration	Reduce Administrative Directors	Implement immediately
Medical/Surgical Program	Medical Program Productivity Improvements	Full implementation by end of 2002/03; initiate implementation ASAP.
	Surgical Program Productivity Improvements	Full implementation by end of 2002/03; initiate implementation ASAP.
Child Health	Reduce Janeway Management Structure	Implement immediately
	PICU Productivity Savings	Median target set for second half of 2002/03; top quartile target for 2003/04
	NICU Productivity Savings	Median target set for second half of 2002/03; top quartile target for 2003/04
	Pediatric Inpatient Productivity Savings	Median target set for second half of 2002/03; top quartile target for 2003/04
Mental Health	Psychiatry Unit Productivity Improvements	Full implementation by end of 2002/03; initiate implementation ASAP.
Rehab & Continuing Care	Reduced Management Structure	Implement immediately
	Chronic Care Productivity Improvements	Full implementation by end of 2002/03; initiate implementation ASAP.
	Intermediate Care Improvements	Full implementation by end of 2002/03; initiate implementation ASAP.
Allied Health	Productivity Savings	Full implementation by end of 2002/03; initiate implementation ASAP.
	Replace PCC model with Program Council Model	Initiate role & services review now; implement new role in 4th quarter of 2002/03
Pharmacy	Reduced Management Structure	Implement immediately
Housekeeping	Reduced Management Structure	Implement immediately
Dietary	Reduced Management Structure	Implement immediately
	Operational Cost Savings (Staff and materials)	Full implementation by end of 2002/03; initiate implementation ASAP.
Health Records	Productivity Savings	Full implementation by end of 2002/03; initiate implementation ASAP.
Information Systems	Increase Support	Full implementation by end of 2002/03; initiate implementation ASAP.

Some of these initiatives will require capital development and/or acquisition

As has been discussed some of these initiatives will require facility redevelopment, system acquisition and/or new technologies before the estimated savings can be realized fully. These include all or part of the productivity improvements and savings in Critical Care, Laboratories, Ambulatory Care and the Emergency Department.

6.0 Recommendations for Change

This chapter presents a listing of all of the recommendations for change resulting from this operational review of the Health Care Corporation of St. John's.

1.0 Background and Objectives

No Recommendations

2.0 Governance and Management

(1) **The Board Chairperson along with the Minister of Health should solicit the Lieutenant Governor in Council to allow the Chief of Staff/Chair of the MAC and the CEO to be a member of the Board of Trustees of HCCSJ.**

(2) **The Board Chairperson should cause the administrative bylaws to be rewritten to make the Chief of Staff an appointee of the Board and Chair of the MAC.**

(3) **The Board Chairperson should cause the administrative bylaws to be rewritten to make the MAC a subcommittee of the Board of Trustees of HCCSJ.**

(4) **The Board of Trustees should initiate a process to develop a role statement and long range plan for the hospital.**

(5) **The Chairperson of the Board should develop and implement a process for setting annual objectives for the hospital that can guide the development of the hospital's operating plan and its operating budget.**

(6) **The CFO should ensure that all analysis of variance includes consideration of the implications of the variance for year-end departmental, program and hospital results.**

(7) **The CFO should further expand and enhance financial and statistical reporting to the Board to include more comprehensive analyses of variances from plan that provide not only the cause of the variance but also potential corrective actions.**

(8) **The CFO should further expand and enhance statistical performance reporting to the board to provide comparisons with similar hospitals in Canada.**

(9) **The Corporate Team should develop a system for regular reporting to the Board of organizational performance in relation to the board's objectives for the hospital.**

(10) **The Medical Advisory Committee should develop a standardized set of quality indicators to be reported to the board.**

(11) **The Medical Advisory Committee should develop a protocol for reporting the findings of its Infection Monitoring Program to the board.**

(12) **The Chairperson of the Board should ensure that the corporation's annual objectives form the core of the annual performance objectives for the CEO.**

(13) **The CFO should initiate the budget process by communicating the corporations operational planning and budgeting parameters.**

(14) **The Vice Presidents should ensure that each operating area develops its plan and budget by translating corporate planning and budget parameters into functional centre parameters defining expected service content, workload, productivity targets, overhead staffing requirements and materials productivity targets.**

(15) **The CFO should ensure that corporate review and evaluation of budgets includes review of changes from prior years and performance against targets.**

(16) **The CEO should ensure that finalization of the budget includes review of each operating areas plans and budgets by the rest of the leadership team.**

(17) **The CFO should ensure that the budget package presented to the Board includes assumptions and risks, and sensitivity analyses related to critical planning/budgeting assumptions.**

(18) **The Health Care Corporation of St. John's should develop and implement plans to provide hospital services within the revenues committed to it from the Department of Health and Community Services and available to it from other sources.**

(19) **The CFO should improve the content of the variance reporting provided to the Corporate Team**

(20) **The CEO and Corporate Team should make cost management and productivity improvement a priority of management and staff throughout the organization.**

(21) **The CFO should establish a data quality task force chaired by the Director of Finance and Budgeting to develop a strategy to improve data integrity.**

(22) **The CFO should establish a management information task force to define the information requirements of managers and the key performance indicators that should be used to monitor organizational performance.**

(23) **The Director of Finance and Budgeting should compile an inventory of all statistics by source that are reported internally and externally, and clearly establish the authoritative source of each statistic**

(24) **The CFO should increase the level of analytical support through the creation of a decision support function**

(25) **The Vice President, Human Resources should develop and implement an Early Intervention Management program to reduce employee absence due to illness and/or accident.**

(26) **The Vice President, Human Resources should develop and implement a Performance Management program for managers at HCCSJ.**

(27) **The Vice President, Human Resources should resolve outstanding grievances and develop a process to expeditiously deal with grievances.**

(28) **The Vice President, Human Resources should play a leadership role in advancing through the provincial bargaining process changes to the collective agreement provisions governing over time for nurses and sick leave and personal paid leave provisions for all union employees.**

(29) The Vice President Medical Services should ensure that all appointees to a position of clinical chief participate in a formal management training program designed for physician leaders such as the PMI courses.

(30) The Vice President Medical Services should ensure that all clinical chiefs have a contract that includes a job description, accountabilities, expectations, required time commitment and appropriate remuneration.

3.0 Financial Review

(31) The Department of Health & Community Services should give serious consideration to increasing approved preferred accommodation rates for HCCSJ to $100 per day for private and $75 per day for Semi-Private accommodation.

(32) The Director of Food Services should take all necessary steps to eliminate Cafeteria operating deficits.

(33) The VP, Administrative Services should evaluate the alternative of contracting with a private sector pharmacy to operate retail pharmacy outlets at its facilities.

(34) The VP, Administrative Services should invite a national group purchasing organization to conduct a product price comparison to determine whether further savings can be achieved.

4.0 Programs and Clinical Review

(35) The HCCSJ and the Department of Health and Community Services should sponsor a 3rd party clinical review of the medical necessity of admissions to the HCCSJ medicine, cardiac, mental health and child health programs

(36) The HCCSJ, in conjunction with the Department of Health and Community Services should identify strategies to reduce the reliance of non-residents of the region on HCCSJ for Primary and Secondary hospital care.

(37) The HCCSJ should establish clinical efficiency targets for each patient category, based initially on

the CIHI expected lengths of stay, and then on the CIHI/HayGroup teaching hospital first quartile performance.

(38) The Vice-President Medical Services should ensure that all Program Clinical Chiefs receive and distribute physician-specific length of stay reports on a quarterly basis.

(39) The Vice-President Medical Services should ensure that the Medical Staff Bylaws Rules and Regulations are modified to require that all attending staff members record an expected date of discharge in the medical record within 24 hours of the admission of any patient.

(40) The Vice-President Medical Services should ensure that clinical practice guidelines are developed (including expected length of stay), implemented and actual performance monitored, for the most common medical conditions and surgical procedures necessitating hospital admission.

(41) The Vice-President Medical Services should ensure that guidelines are developed on the indications for interventions for which HCCSJ has a high rate of utilization, such as hysterectomy and myringotomy.

(42) The Vice President Medical Services should ensure that the Medical Staff Bylaws are modified to explicitly define the expectations that medical staff will participate within their programs and departments to improve the efficiency of the services they provide.

(43) The HCCSJ Board of Trustees should ensure that information regarding the comparative performance of the Corporation with respect to utilization and efficiency is provided to the Board on an annual basis.

(44) The Vice-President Medical Services should ensure that the evaluation of performance for reappointment of medical staff includes evaluation of clinical efficiency.

(45) The Vice-President Medical Services should reestablish the Corporate Utilization Management Committee as a standing committee of the MAC, and expand the membership to include the Clinical Chiefs of all programs.

(46) The Vice-President Medical Services should initiate a study to determine the appropriate compensation of HCCSJ physicians for involvement in administrative activity.

5.0 Departmental Reviews

(47) The Board and CEO should convert the Dr. Walter Templeman Health Centre into an outpatient primary care health centre.

(48) The Vice President Patient Care Services should discontinue the Janeway Emergency Department Telephone Advice Service.

(49) The Vice President Patient Care Services should establish a 1 800 poison control line by contracting the service with a larger paediatric hospital.

(50) The Vice President Medical and the Chair of the MAC should ensure that the appointment of all specialists includes clear delineation of on-call service responsibilities and that these responsibilities are fulfilled.

(51) The CEO should initiate the planning and development for the consolidation of Adult and Paediatric Emergency Services into a single site operating as a single Emergency Department at the Janeway/Health Sciences Centre.

(52) The Director of Emergency Services should establish productivity target of 2.43 worked hours per visit level for the General site's Emergency Department.

(53) The Director of Emergency Services should target an overall productivity level of 1.98 worked hours per visits upon consolidation and redevelopment of ER sites.

(54) The Chief of Anaesthesia should ensure that an anaesthetist is present in the Pre-Admission Clinic as part of the evaluation team.

(55) The OR Committee should redevelop its elective booking policies and practices to provide for more equitable, efficient and effective use of hospital resources.

(56) The Chief of Surgery and the Surgical Program Director investigate the feasibility and desirability of reorganizing some of the surgical beds for a Short Stay Unit (SSU).

(57) The Surgical Program Director and the Director of Materials Processing should establish an instrument tracking system to monitor and correct deficiencies.

(58) The Surgical Program Director, Chief of Surgery and the Director of Materials Management should ensure that there are sufficient instruments and equipment to complete the scheduled volume of daily OR surgery.

(59) The Chief of Obstetrics, Surgical Program Director and Director of Women's Health should transfer all post-partum tubal ligations and 1st trimester D&Cs to the Caseroom.

(60) The Chief of Obstetrics & Gynecology, Surgical Program Director and Director of Women's Health investigate the potential of performing hysteroscopies in the Women's Health Centre under local anaesthesia.

(61) The Surgical Program Director should adopt a policy that the scrub nurse remains scrubbed for a case to its completion unless it is greater than 4 hours.

(62) The Vice President Patient Services should ensure that the humidification system in the Janeway ORs is rectified immediately.

(63) The Surgical Program Director should implement a zone based coverage model for the St. Clare's PARR.

(64) The Surgical Program Director should establish an overall PARR productivity target of 3.11 worked hours per visit.

(65) The Surgical Program Director should establish St. Clare's and General site OR productivity targets of 12.04 worked hours per case.

(66) VP Patient Care Services, The Program Director, and the Clinical Chief should consolidate CCU services and create one 20-bed CCU at the General site.

(67) VP Patient Care Services, The Program Directors, and the Clinical Chiefs should increase the number of beds in the IMC unit to 6 and make this a closed unit under the control of the intensivists.

(68) VP Patient Care Services, The Program Director, and the Clinical Chief should change two of the three special care units to ward beds and leave a total of 4 beds for step down for all of surgery.

(69) The Program Director, and the Clinical Chief should reduce the number of cardiac step down beds by 4 and hold to 16 cases per week.

(70) The Program Director should establish an Intensive Care Unit productivity target of 24.88 worked hours per patient day for 2002/03 and 22.44 worked hours per patient day for 2003/04.

(71) The Program Director should establish a Coronary Care Unit productivity target of 15.20 worked hours per patient day.

(72) The Vice President Patient Care Services should reduce the number of Division Directors by 3.0 FTEs.

(73) The Vice President Patient Services should increase casual positions to at least 20% to provide more flexible staffing options.

(74) The Program Director for the Medical Program should establish a productivity target of 5.92 worked hours per patient day for the Medical Inpatient Program.

(75) The Program Director for the Surgical Program should establish a productivity target of 6.22 worked

hours per patient day for the Surgical Inpatient Program.

(76) The Vice President Medical Services should evaluate the relative intensity of use of outpatient clinic space and reallocate as feasible to balance use among the sites and clinic areas.

(77) The Program Director for Child Health should establish a PICU productivity target of 36.44 worked hours per patient day for the 2002/03 and a target of 29.87 worked hours per patient day for 2004/05.

(78) The Program Director for Child Health should establish a NICU productivity target of 15.76 worked hours per patient day for the 2002/03 and a target of 14.39 worked hours per patient day for 2004/05.

(79) The Program Director for Child Health should establish a Paediatric Unit productivity target of 10.43 worked hours per patient day for the 2002/03 and a target of 8.90 worked hours per patient day for 2004/05.

(80) The Program Director should establish a productivity target of 6.06 worked hours per patient day for the acute psychiatry units.

(81) The Vice President Patient Care Services should reduce the number of managers in the Rehabilitation and Continuing Care Program by 1.0 FTE.

(82) The Director of Rehabilitation and Continuing Care should establish a productivity target of 4.64 worked hours per patient day for the Chronic Care and Intermediate Care Nursing Units.

(83) The Vice President, Patient Care Services should develop and present to Senior Management a formal business case, inclusive of one-time renovations costs, operational costs and quality benefits, of implementing a day hospital.

(84) The Vice President responsible for Allied Health should reduce front-line staff by 15 FTEs, and should perform further investigation of opportunities to improve productivity of allied health staff.

(85) The Vice President responsible for Allied Health should develop and replace the current Professional Practice Coordinator model with a Professional Practice Council model with associated staff savings.

(86) The Director of Pharmacy should reduce the department management structure by 1.0 FTE Manager.

(87) The Director of Pharmacy should undertake a comprehensive cost-benefits and impact analysis of the role of clinical pharmacists.

(88) The Director of Pharmacy should identify specific tasks currently performed by pharmacists that can be more appropriately performed by pharmacy technicians.

(89) The Director of Laboratory Services should plan for the development and implementation of a core hematology/chemistry laboratory at St. Clare's Hospital.

(90) The Vice President Medical should provide for the consolidation of all HCCSJ microbiology services at the General site.

(91) The Vice President Medical should provide for the consolidation all cytology to the St. Clare's site.

(92) The Vice President Medical should implement a process to review, budget and charge appropriately all laboratory services provided in support of research projects

(93) The Director of Laboratory Services should consolidate management positions for pathology/cytology and automated chemistry/hematology core functions.

(94) The Director of Laboratory Services should establish an initial productivity target of 0.0238 worked hours

per patient care workload unit in the Main Labs and upon completed implementation of the core labs establish a productivity target of 0.0225 worked hours per patient care workload unit.

(95) The Director of Laboratory Services should establish an initial productivity target of 0.0239 worked hours per patient care workload unit in the Microbiology Laboratories and upon consolidation on a single site establish a productivity target of 0.0181 worked hours per patient care workload unit.

(96) The Director of Laboratory Services should reduce staffing in Pathology by 2.0 FTEs in Cytology and 1.0 FTE in Histopathology and make investments to train three pathology assistants.

(97) The Vice President Medical Services and the Chairperson of the MAC should initiate a process create a Single Radiologists group for HCCSJ.

(98) The Director of Diagnostic Imaging should restructure the current management structure.

(99) The CEO should transfer the management responsibilities of Central Portering and DI transcription Services to Materials Management and Health Records respectively.

(100) The Director of Diagnostic Imaging should create a single centralized patient and booking and scheduling service.

(101) The Clinical Chief of Diagnostic Imaging should work with the MAC to establish criteria for the appropriate use of sophisticated imaging procedures.

(102) The Director of Diagnostic Imaging should undertake the development of a detailed cost-benefit study for the implementation of PACS across the HCCSJ campuses.

(103) The Vice President Medical Services and the Director of Diagnostic Imaging should initiate planning for the consolidation of all diagnostic imaging services at the Janeway/Health Sciences Centre

(104) The Director of Diagnostic Imaging should establish a General Radiology productivity target of 0.0360 worked hours per workload unit for 2002/03 and a productivity target of 0.0332 worked hours per workload unit for 2003/04.

(105) The CEO and Board should consider the merits of the CARA proposal to reduce cafeteria operating hours.

(106) The Director of Food Services should work with Housekeeping to develop and implement a plan to more effectively use temporary staff.

(107) The Director of Food Services should eliminate the between meals nourishment snack service.

(108) The Vice President Administrative Services should reduce the management structure of Food Services by 3.0 FTEs

(109) The Vice President Administrative Services should establish a performance target of $30.15 net operating costs per patient day.

(110) The Vice President Administrative Services should reduce Housekeeping staffing by 1.0 FTE Management Supervisor.

(111) The Vice President Administrative Services evaluate the potential to recover the cost of providing personal laundry services.

(112) The Vice President Administrative Services should conduct a cost benefit analysis of renovating existing General site floors to reduce the number of supply storage locations and achieve reductions in staff resources (Nursing Unit MSAs) required for supply replenishment.

(113) The Vice President of Quality and Planning should develop and implement standardized policies, processes and accountabilities for patient registration and training of staff across HCCSJ.

(114) The Director of Health Records should investigate alternative approaches to transcription services, such

as external service providers and at-home transcription.

(115) The Director of Health Records should include performance to workload standards as a standard part of an employee's performance evaluation process.

(116) The Director of Health Records should establish a productivity target of 1.17 worked hours per workload unit.

(117) The Vice President Administrative Services and Director of Information Management and Technology should develop a long term capital plan that reflects prioritized needs articulated in the IM&T strategy.

(118) The Vice President Administrative Services and Director of Information Management and Technology should implement benefit-realization programs for each major IT/IS initiative.

(119) The Vice President Administrative Services should increase information resources by 11.0 FTEs, either through new hires or through contracted service.

7.0 Implementation Plan

Because of the serious and deteriorating state of the hospital's finances, we urge the hospital to focus its first efforts on reducing its operating costs through the identified clinical and operational efficiencies.

Once these efforts have been initiated it should then turn its attention to implementing the recommendations of this report related to improving its governance and management structures and processes.

The implementation plan involves initiatives related to:

- Organizing for change
- Redesigning care processes to achieve savings from clinical efficiencies
- Redesigning work processes and systems to achieve savings from improvements in functional centre productivity that can be achieved without a facilitating capital investment
- Implementing recommended improvements in management processes
- Implementing recommended improvements in governance structure and processes
- Implementing savings from improvements in functional centre productivity that require a facilitating capital investment.

The key elements of this implementation plan are discussed briefly in the paragraphs following.

Joint Review of Report and Recommendations

The first implementation step will be for the department and the hospital to review the report and recommendations and determine the recommendations and levels of savings that they are individually and jointly prepared to accept and implement.

The Department should provide the hospital with a clear mandate from the Minister of Health to achieve a clearly articulated savings target within a defined timeframe. The ministry should develop and implement its communication plan for the release of the report and the articulation of its expectations of the hospital.

The hospital should identify and plan for those recommendations that it accepts and is willing to implement. An important component of this activity will be to communicate to key stakeholders the findings and recommendations of the review and the hospital's response. The communication plan should create a sense of urgency within the hospital and communicate clearly the organization's

- commitment to achieving the necessary savings and
- conviction that the hospital will be strengthened by a new focus on quality and efficiency and that
- commitment that the volume and quality of care will not suffer.

Negotiate Recovery Plan with Department of Health

The overall objective of this review has been the development of a recovery plan to make strategic, operational and management improvements to achieve a positive financial position consistent with the delivery of effective and efficient hospital services. The recommendations of this report, if implemented, will allow the hospital to achieve significant efficiencies in its clinical and operational processes. Based on the findings and recommendations of the review the Hospital should negotiate with the Department of Health to establish:

- A strategy and a plan for reducing the hospital's operating costs as recommended in this review
- A strategy and a plan for restoring the hospital's working capital to a positive position

Organize to Implement

The hospital will need to create a special structure to lead, oversee, guide and generally create a focus on the implementation process. The overall process of change should be led by a special team that includes the senior management team and representatives from the unions and physicians. This group should meet weekly with its only purpose to direct the implementation process. Possibly should be chaired by the Vice President Finance or the Vice President Human Resources who will need to act as the champion for implementation. Staff support should be dedicated to the implementation process. These should be drawn from the expanded decision support group within the Department of Finance and the expanded utilization management resource of the hospital.

Clinical Efficiencies

Given the recent investments and growing robustness of its structures and processes for utilization management, we feel that the savings from clinical efficiencies can be quickly realizable. We expect that some of these savings have already been achieved in 2001/02. The remainder of the savings should be achievable over the next two fiscal years. We would expect that the percentage of inpatient cases, the ALOS of admitted patients and thus number of patient days will decline steadily over the two year period as:

- hospital systems improve
- physicians become more involved in and committed to utilization management
- physicians increase the percentage of care provided as ambulatory care
- physicians are able to finish the course of treatment more quickly and as
- physicians begin to write discharge orders for their patients more quickly after the completion of the episode of care.

Also, we would expect that discharge planning will develop protocols that will involve earlier planning for discharge for those programs and patients with the most significant opportunities for reductions in length of stay. As has been discussed, we expect that clinical efficiencies will provide net annual operating impact of $7.1 million in 2002/03 and an additional $6.7 million impact in 2003/04. Increasing availability of outpatient activity will facilitate these improvements in clinical efficiency. Space to support this increased outpatient activity, if required, should be made available as quickly as possible.

Operational Efficiencies

Operational efficiencies may take as long as 2 years to fully realize. Some of these savings are dependent on facility redevelopment, system acquisition and/or technology acquisition. However, significant savings are available to the hospital without the need for any capital investment. Savings totaling as much as $7.5 million will be available to the hospital within the first year of this implementation period (and some of the savings may have been realized in 2001/02). An additional $8.2 million in savings will be available in future years[103].

Some of the operational improvements in Critical Care, Laboratories and the Emergency Department will be facilitated by facility renovation/redevelopment and/or technology acquisition. These costs have not been included in our analyses. Delays in redevelopment and/or technology acquisition will delay realization of some of the savings presented here. The hospital and the Department should proceed as quickly as possible to facilitate the suggested improvements in efficiency, effectiveness and quality of care at the HCCSJ.

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[103] And there are additional savings of as much as $2.6 million from productivity improvements in Laboratories, Imaging and Laundry services that are not reflected in these estimates because of concerns about the quality of the data provided by the hospital to support this review.

Governance & Management Processes

Although the hospital has reasonably strong governance and management processes, there are still some significant opportunities for improvement. These include:

- Development of a long-range plan and a supporting strategic plan
- Enhancement of the operational planning & budgeting processes
- Improved reporting for the board, senior management and functional centre managers
- Refinement of the roles and relationships of Chief of Staff and MAC in the context of program management and quality monitoring on behalf of the board
- Enhancements to management processes

Although all of these are important to the success of the hospital, we feel that initiatives to restore the financial health of the hospital and ensure its long-term viability should take precedence. As a result, we feel that these activities should be deferred until the hospital can begin work on achieving the targeted clinical and operational efficiencies.

Progress Reporting to the Department of Health

Because of the likely need for Department of Health support until the hospital achieves the targeted cost savings it will be incumbent on the hospital to account for its progress toward achieving these targets.

7.1 Implementation Plan

The following table presents our suggested scheduling of initiatives to improve efficiency of the hospital. It also presents estimates of the savings that will be achievable in each year. For the purposes of this exercise, we have assumed no changes in patient volume, content of care or the unit cost of labour, supplies and services from 2001/02[104].

As can be seen, over the next 3 years, the hospital should be able to achieve almost all of the savings from the improvements in clinical and operational efficiency identified in this review. These changes will provide a reduction in the hospital's operating costs of almost $30 million. This should provide for elimination of the hospital's operating losses in 2002/03 and provide for the gradual elimination of its working capital deficit. Ultimately, assuming continued funding support by the department, the reduced running rate of expenses for the hospital will provide it with the ability to accumulate working capital to support new patient care initiatives for the community. And it should be remembered, that the targets and cost savings estimates established for the hospital have been tempered to recognize both the current operating characteristics of the hospital and concerns about the quality of the data provided by both the HCCSJ and the comparator hospitals. We are confident that the level of savings estimated here is achievable by the hospital. Additional improvements and cost savings may be realizable. The hospital should pursue these additional savings opportunities through a process of Continuous Improvement of its Clinical and Operating Processes.

The schedule of cost savings assumes that the hospital moves expeditiously to implement the recommended change. Although their will be issues related to staff morale and seniority rights to employment that will need to be addressed, our experience is that change of this magnitude is best dealt with quickly. It will require clear, consistent and honest communication of the necessity of change and the breadth of initiatives to be undertaken. Some of the improvements in quality and/or efficiency will require facility redevelopment. Delays in completing these capital projects may delay full realization of the estimated benefits.

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[104] In this table, we have used a factor of $57,500/FTE to estimate the FTE reduction related to the reduction in patient days from clinical efficiencies.

Exhibit 7.1:
Cost Savings Implementation Schedule

		2001/02		2002/03		2003/04		2004/05	
Area	Initiative/Recommendation	FTEs	Dollars	FTEs	Dollars	FTEs	Dollars	FTEs	Dollars
Short-Term Operating Cost Savings									
Corporate	Minimize call in for sick relief	-3.51	-$152,549	-21.09	-$915,294	0.00	$0	0.00	$0
ORs/PARRs	Temporary Closure of One OR	-0.50	-$26,467	0.00	$0	0.00	$0	0.00	$0
Clinical Efficiency Cost Savings									
	Reductions in patient days			-135.65	-$7,800,000	-271.30	-$15,600,000	-271.30	-$15,600,000
	Ambulatory Clinic Investment			6.96	$400,000	21.91	$1,260,000	21.91	$1,260,000
	Utilization Management Analysts and Tools			5.22	$300,000	8.70	$500,000	8.70	$500,000
Operational Efficiency Cost Savings									
Bell Island	Conversion to Ambulatory Care Centre	0.00	$0	0.00	-$177,134	0.00	-$708,534		-$708,534
Emergency Depts.	Discontinue Janeway Telephone Lines	-0.50	-$27,829	-3.00	-$166,975	-3.00	-$166,975	-3.00	-$166,975
	General Productivity Improvements	0.00	$0	-6.33	-$352,318	-12.66	-$704,636	-12.66	-$704,636
	General/Janeway ER Consolidation	0.00	$0	0.00	$0	0.00	$0	-6.80	-$378,478
ORs/PARRs	PARR Productivity Improvements	0.00	$0	-1.89	-$117,413	-3.77	-$234,826	-3.77	-$234,826
	OR Productivity Improvements	0.00	$0	-1.22	-$75,442	-2.44	-$150,883	-2.44	-$150,883
Critical Care	CCU Productivity Improvements	0.00	$0	-5.85	-$364,074	-11.69	-$728,149	-11.69	-$728,149
	ICU Productivity Improvements	0.00	$0	-17.26	-$1,074,782	-34.51	-$2,149,565	-34.51	-$2,149,565
Nursing Administration	Reduce Administrative Directors	-0.50	-$44,543	-3.00	-$267,258	-3.00	-$267,258	-3.00	-$267,258
Medical/Surgical Program	Medical Program Productivity Improvements	0.00	$0	-10.57	-$588,032	-21.13	-$1,176,063	-21.13	-$1,176,063
	Surgical Program Productivity Improvements	0.00	$0	-5.92	-$329,498	-11.84	-$658,996	-11.84	-$658,996
Child Health	Reduce Janeway Management Structure	-0.17	-$12,568	-1.00	-$75,411	-1.00	-$75,411	-1.00	-$75,411
	PICU Productivity Savings	0.00	$0	-4.09	-$227,365	-11.56	-$643,412	-11.56	-$643,412
	NICU Productivity Savings	0.00	$0	-6.65	-$369,850	-19.95	-$1,110,386	-19.95	-$1,110,386
	Pediatric Inpatient Productivity Savings	0.00	$0	-10.67	-$593,876	-32.17	-$1,790,533	-32.17	-$1,790,533
Mental Health	Psychiatry Unit Productivity Improvements	0.00	$0	-16.14	-$898,049	-32.27	-$1,796,099	-32.27	-$1,796,099
Rehab & Continuing Care	Reduced Management Structure	-0.17	$12,568	-1.00	-$75,411	-1.00	-$75,411	-1.00	-$75,411
	Chronic Care Productivity Improvements	0.00	$0	-5.42	-$301,827	-10.83	-$603,654	-10.83	-$603,654
	Intermediate Care Improvements	0.00	$0	-2.53	-$141,020	-5.06	-$282,039	-5.06	-$282,039
Allied Health	Productivity Savings	0.00	$0	-7.50	-$396,341	-15.00	-$792,681	-15.00	-$792,681
	Replace PCC model with Program Council Model	0.00	$0	-1.56	-$106,267	-6.25	-$425,066	-6.25	-$425,068
Pharmacy	Reduced Management Structure	-0.17	-$13,515	-1.00	-$81,091	-1.00	-$81,091	-1.00	-$81,091
Housekeeping	Reduced Management Structure	-0.33	-$22,782	-2.00	-$136,689	-2.00	-$136,689	-2.00	-$136,689
Dietary	Reduced Management Structure	-0.50	-$30,578	-3.00	-$183,469	-3.00	-$183,469	-3.00	-$183,469
	Operational Cost Savings (Staff and materials)	0.00	$0	-9.58	-$559,231	-19.16	-$1,118,461	-19.16	-$1,118,461
Health Records	Productivity Savings	0.00	$0	-6.05	-$196,843	-12.10	-$393,686	-12.10	-$393,686
Information Systems	Increase Support	0.00	$0	5.50	$410,355	11.00	$820,710	11.00	$820,710
Estimated Total Annual Cost Saving Opportunities		-6.35	-$318,263	-272.26	-$15,460,604	-506.09	-$29,473,265	-523.89	-$29,851,743

Appendices